GAS

CE

GRILLS
MODEL MWG-9501
MODEL MWGH-9501
MODEL MWGF-9501
MODEL MWGFH-9501
MODEL MWGL-9501
MODEL MWGR-9501

McDonald's®

GARLAND

SERVICE MANUAL

MANUFACTURED EXCLUSIVELY FOR
McDONALD'S®
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NOTE: This manual pertains to both clam grill and flat grill models. The reader/operator must interpret its contents to applicable needs. However, if there is any question of interpretation of any literature pertaining to Garland grills, please contact our Customer Service Department at one of the phone numbers listed above.

FOR YOUR SAFETY DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.	*WARNING:* IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

KEEP APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES!

PLEASE READ ALL SECTIONS OF THIS MANUAL AND RETAIN FOR FUTURE REFERENCE.

THIS PRODUCT HAS BEEN CERTIFIED AS COMMERCIAL COOKING EQUIPMENT AND MUST BE INSTALLED BY PROFESSIONAL PERSONNEL AS SPECIFIED.

ALL BURNER ADJUSTEMENTS AND SETTINGS MUST BE MADE BY A QUALIFIED GAS TECHNICIAN.

NOTE: **Unit must be installed with no less than six inches (6") clearance from combustible construction at both sides and rear.**

FOR YOUR SAFETY: **Post in a prominent location, instructions to be followed in the event the user smells gas. This information shall be obtained by consulting your local gas supplier.**

CAUTION: THIS EQUIPMENT MUST ONLY BE OPERATED UNDER AN APPROVED HOOD SYSTEM

THIS EQUIPMENT "MUST" BE INSTALLED AND COMMISSIONED BY A PROFESSIONAL FACTORY TRAINED TECHNICIAN

0049

CE

Part # 1382691 Rev. 3
CE Configuration

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WARRANTY

This warranty covers defects in material and workmanship under normal use providing that:

a) the equipment has not been accidentally or intentionally damaged, altered or misused.

b) the equipment is properly installed, adjusted, operated and maintained in accordance with national and local codes and in accordance with the installation instructions provided with this product.

c) the warranty serial number affixed to the appliance by us has not been defaced, obliterated or removed.

d) an acceptable report for any claim under this warranty is supplied to us.

The equipment warranty coverage remains in force for one (1) year (parts and labor) from the date the equipment is put into operation and **two** (2) years (parts only) for the microprocessor controller, motor speed controller and upper platen (aluminum casting and shroud).

The Garland Group agrees to repair or replace, at it's option, any part that proves to be defective in material or workmanship at no charge for the part or normal labor.

We assume no responsibility for installation, adjustments, diagnosis, or normal maintenance such as: lubrication of springs or valves. We exclude failures caused by erratic voltage or gas supplies. We assume no responsibility for travel costs beyond 100 miles round trip, travel other than overland, and overtime costs of repair. We exclude broken glass, paint and porcelain finish, surface rust, gasket material, ceramic material, light bulbs and fuses from normal coverage. We exclude damage or dysfunction caused by fire, flood, and like "Acts of God" that are beyond the control of The Garland Group.

The Garland Group's liability on a claim of warranty shall not exceed the price of the material and/or service, which caused the claim. This warranty is limited and is in lieu of all other warranties, expressed or implied. The Garland Group, our employees, or our agents shall not be held liable for any claims of personal injury or consequential damage or loss. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

INTRODUCTION

The Garland clamshell grill, manufactured exclusively for McDonald's, provides a method for efficient two-sided cooking, while accommodating a variety of products. The unit will also serve as a flat grill, and meets all of McDonald's standards for safety, efficiency, and cleanliness.

SHIPPING DAMAGE CLAIM PROCEDURE

Please note that the Garland equipment was carefully inspected and packed by skilled personnel before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the equipment.

What to do if the equipment arrives damaged:

1. File a claim immediately regardless of the extent of damage.

2. Be sure to note, "visible loss or damage," on the freight bill or express receipt and have the person making the delivery sign it.

3. Concealed loss or damage: if damage is unnoticed until the equipment is unpacked, notify the freight company immediately, (within 15 days), and file a concealed damage claim.

SAFETY

Always follow these safety precautions when operating the clamshell grill.

This grill must only be operated by persons who have been given adequate training.

CAUTION: THIS EQUIPMENT MUST ONLY BE OPERATED UNDER AN APPROVED HOOD SYSTEM.

DO NOT OPERATE THE GRILL UNLESS IT HAS BEEN COMMISSIONED (START-UP) BY A FACTORY AUTHORIZED SERVICE CENTER.

DO NOT operate the grill without reading this operation manual.

DO NOT operate the clamshell grill unless it has been properly installed and grounded.

DO NOT operate the clamshell grill unless all service and access panels are in place and fastened properly.

The Garland clamshell grill is a semi-automatic cooking appliance. The upper platen is lowered Automatically, following the manual, two-handed initiation of the cooking cycle, and the upper platen is raised automatically upon completion of the cooking cycle.

When two sided cooking, the area between the upper platen and the griddle plate should be regarded as a

"danger zone". During two sided cooking the operator must not be within this danger zone. When used as a flat grill, then this area is no longer a danger zone, the platens do not move.

For whatever reason, be it cleaning, maintenance, normal operation, any exposed person must use extreme caution if within this danger zone.

If for any reason the grill is required to be brought to an immediate stop, this is achieved by turning the power switch, which is marked start and stop, and is located on the front panel adjacent to the grill control, to the stop position.

In two side cooking the upper platen remains in the lowered position by nature of it's own weight. It is not locked down. It can be raised by lifting of the handle on the front of the platen, which pivots the platen about its rear mounting point.

The clamshell grill may during its operation emit airborne noise equivalent to a continuous A weighted sound pressure level of 73dB(A).

The clamshell grill must only be used for single and two sided cooking of foodstuffs in a McDonald's store and must not be used for any other purpose.

WARNING: To avoid serious personal injury:

DO NOT attempt to repair or replace any part of the clamshell grill unless all main power supplies to the grill have been disconnected.

USE EXTREME CAUTION in setting up, operating and cleaning the clamshell grill to avoid coming in contact with hot grill surfaces or hot grease. Suitable protective clothing should be worn to prevent the risk of burns.

WARNING: This appliance must not be cleaned with a water jet. **DO NOT apply ice to a HOT grill surface.**

NOTE: All warning labels and markings on the grill, which call attention to further dangers and necessary precautions.

HAZARD COMMUNICATION STANDARD, (HCS) - The procedures in this manual include the use of chemical products. These chemical products will be printed in bold face, followed by the abbreviation **(HCS)** in the text portion of the procedure. See the Hazard Communication Standard, **(HCS)** manual for the appropriate Material Safety Data Sheet(s), (MSDS).

WARNING: After turning the master power switch to the START position, the grill will go through an initialization process. If the upper platens are in the lowered position they will return to their raised upper position. This movement takes approximately 8 seconds.

LIGHTING INSTRUCTIONS:

1. Ensure that the flexible gas hose is connected to the grill and the power cords are plugged into the receptacles.

2. Turn the main power switch ON and allow the controls to go through the power-up self-check. Once the control(s) panel displays the word "OFF", the unit is ready to begin the heating process.

3. By selecting any of the menu items (pressing the menu button) the controls will automatically initiate the heating cycle appropriate for the menu item selected. The burner(s) should light and heat until the temperature specified by the menu item has been obtained.

4. If ignition of the burner does not occur on the first trial, the second from the bottom indicator light will flash amber. If the burner(s) does not light within four trials for ignition, the control(s) will display a flashing warning "IGNITION FAILURE", the flashing amber light will turn to solid red and an audible alarm will sound. If this occurs, turn the main power switch off, wait 5 minutes, then repeat steps 2 and 3.

SHUT DOWN INSTRUCTIONS:

1. To shut down unit at any time, switch the main power switch to off (non-lit) position.

2. For extended shut down periods, switch main power switch to off position, disconnect unit from gas supply line and unplug electrical connections.

MAINTENANCE - the platen support arms carriage block bearing bushes, the platen adjuster nuts, the platen support (shoulder) bolt and the cam follower should be checked annually for wear. Should there be any noticeable play in the bearing bushes and any visible wear on the platen adjuster nuts, platen support bolts or cam follower, then they must be replaced.

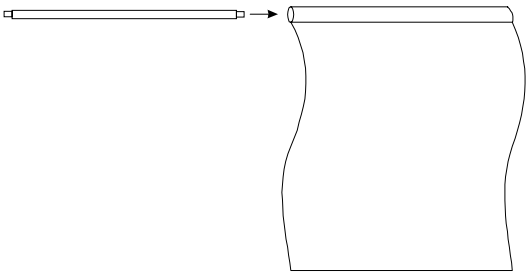
MAINTENANCE - the audible alarm that sounds on platen lowering, platen raising and 5 seconds before the completion of the cooking cycle is to advise the operator that the platen is about to move. The function of this device may be tested by pushing the left hand CANCEL button. If no sound is heard, ensure that the alarm volume is not set to low in SYSTEM SETUP. If there is still no sound then a service engineer should be called out to rectify the fault.

SERVICE AND CLEANING - The grill is secured in the grill bay by the installer using two anchors that lock onto the front casters. If the grill is to be moved out of the bay for cleaning or service, remove the anchor from each caster by turning the knob counterclockwise to loosen the retainer. When the retainer is free of the caster, lay the assembly aside on the floor. NOTE: The anchor assembly remains fastened to the back wall of the grill bay.

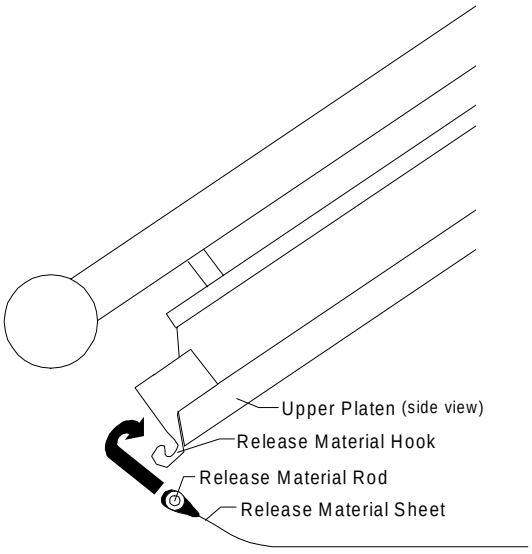
After service or cleaning is complete, return the grill to its position in the bay and reattach the anchors by placing the retainer on the caster post and turning the knob clockwise to tighten. NOTE: For safety reasons, the grill must be secured in the grill bay in this manner before operation can resume.

RELEASE MATERIAL INSTALLATION

Slide release material rod through hemmed end of the release material sheet.



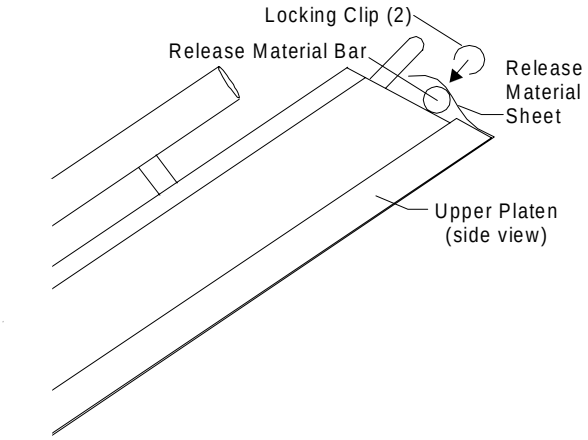
Hook release material rod on brackets located at the rear of the upper platen.



Holding the bottom of the release material sheet in place, gently pull the sheet toward the front of the platen.

NOTE: Make sure release material fits smoothly over upper platen.

Place locking clips over release material sheet and press into place over release material bar.



Check alignment and tightness of release material against upper platen.

NOTE: Installing release material sheets too tight may cause premature failure of the sheet.

Release material sheets must be changed when:

Product sticks to release material.

Carbon build-up causes problems in taste or appearance.

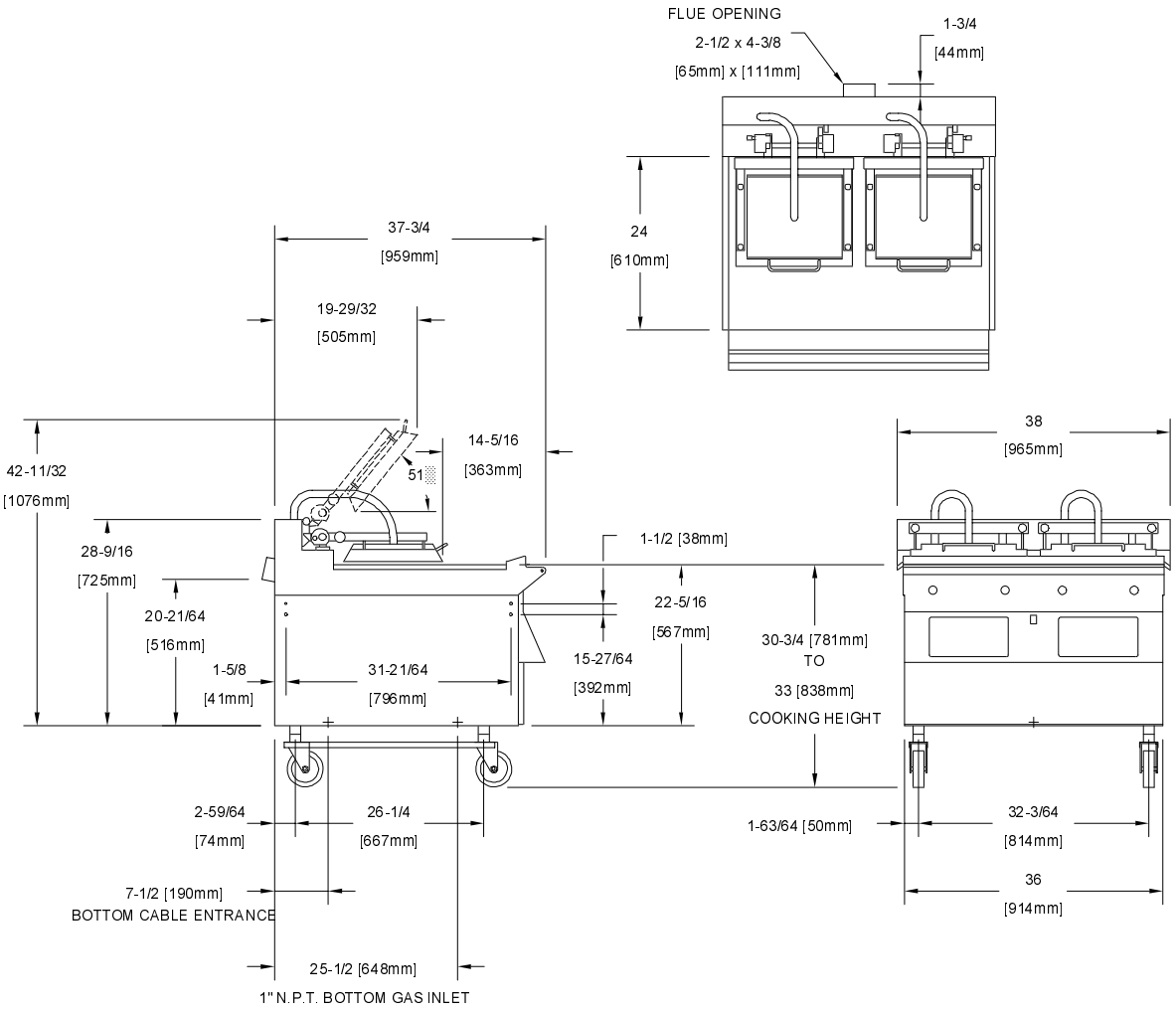
A tear in the release material sheet's cooking area.

Release material coating is worn off sheet.

NOTE: Rotate the release sheets on daily basis.

NOTES

SPECIFICATIONS



THIS GRILL MUST BE INSTALLED IN A NON-COMBUSTIBLE GRILL STATION MANUFACTURED TO MCDONALD'S SPECIFICATION.

FULL-SIZE GRILL MODEL MWG-9501

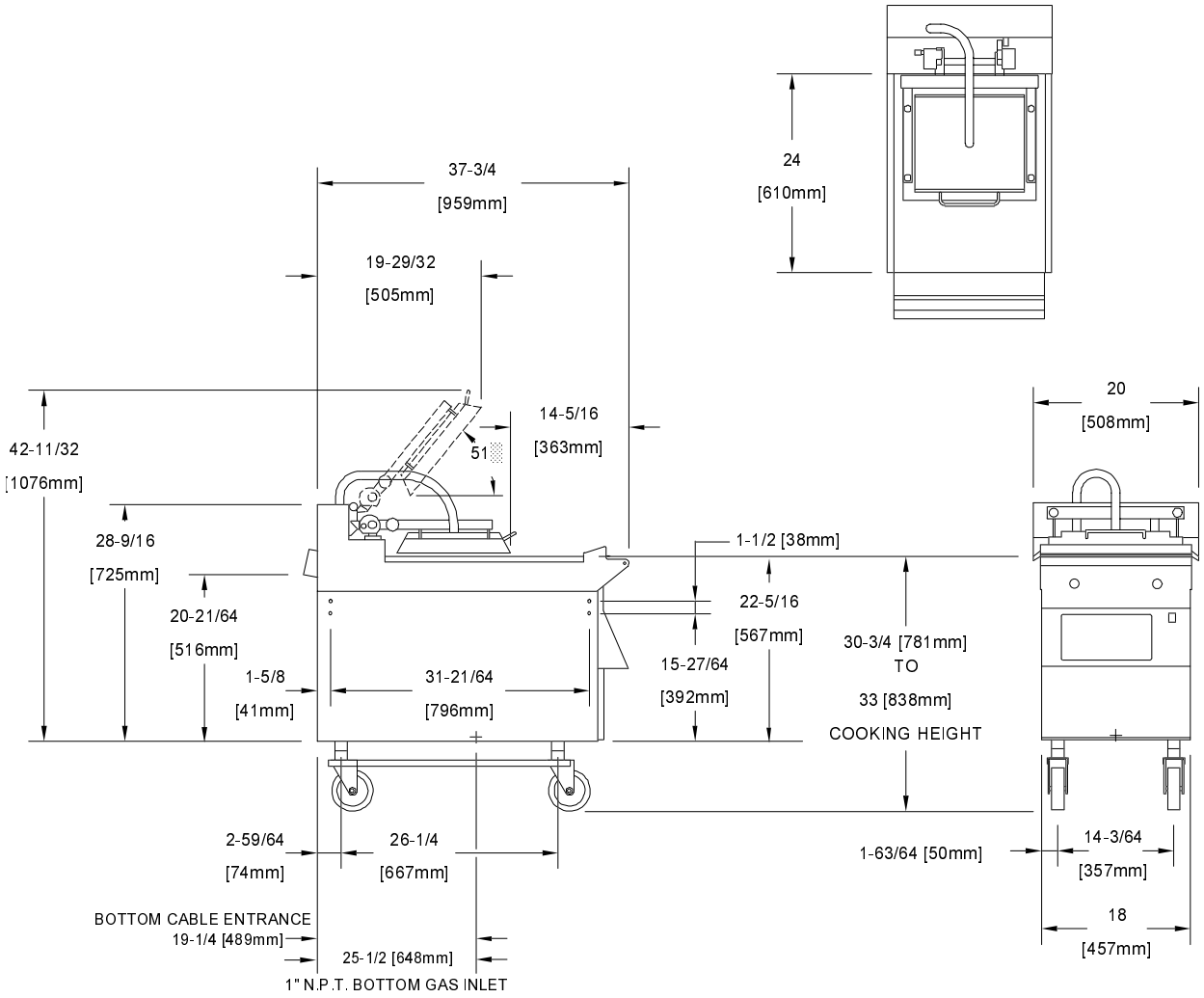
GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**18.46**	**20/25 mbar**	**8.75mbar**	**1.96 m3/h**
Propane	**18.88**	**30/37/50 mbar**	**25 mbar**	**1.46 kg/h**

MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	11.2 kW	L1 16.9A	L2 19A	L3 16.9A	L1 16.2A	L2 18.1A	L3 16.2A	TYPE 748

SPECIFICATIONS



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HALF-SIZE GRILL MODEL MWGH-9501

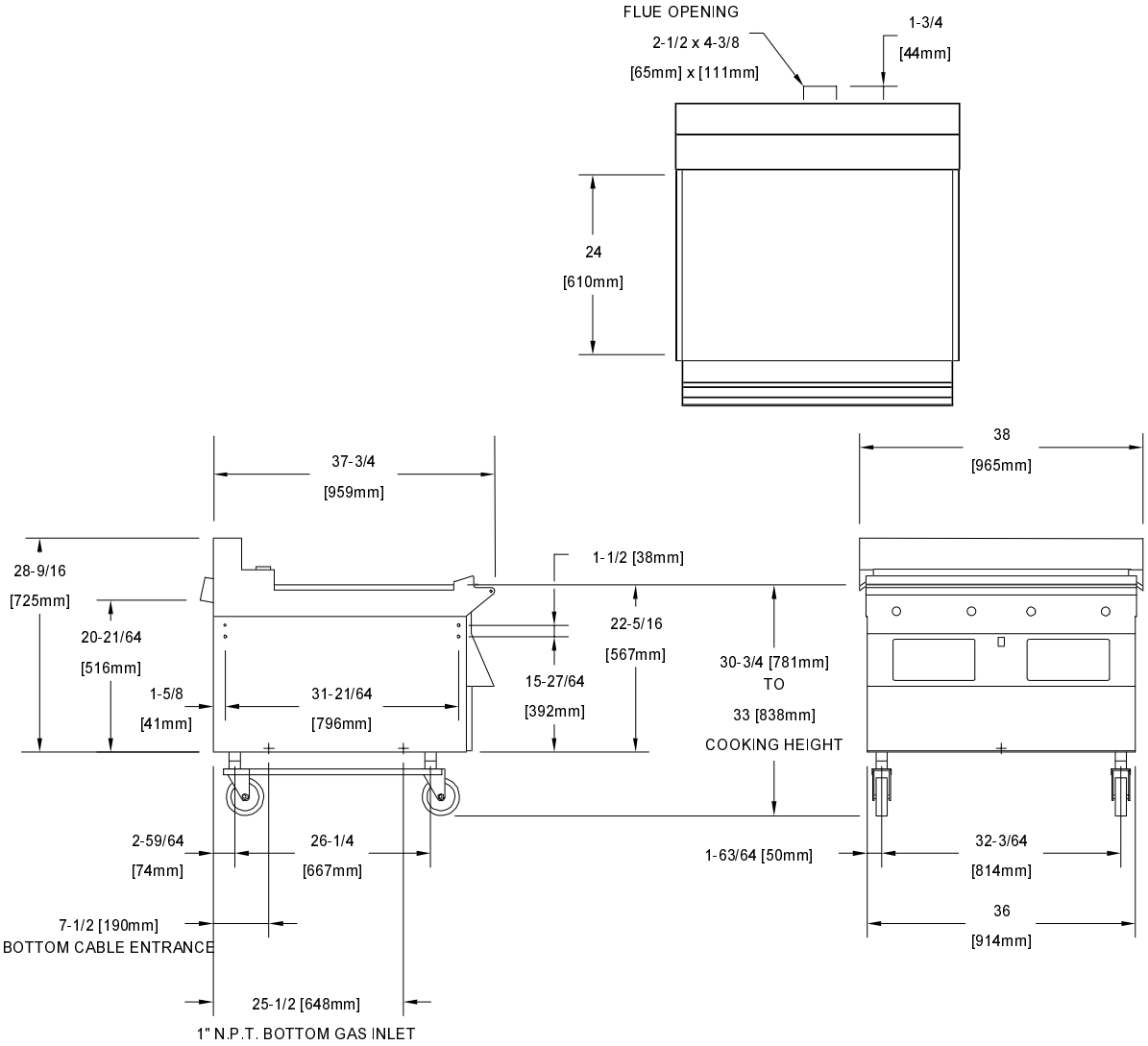
GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**9.23**	**20/25 mbar**	**8.75mbar**	**0.98 m3/h**
Propane	**9.44**	**30/37/50 mbar**	**25 mbar**	**0.73 kg/h**

MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	6.0 kW	L1 8.5A	L2 10.6A	L3 8.5A	L1 7.2A	L2 10.1A	L3 7.2A	TYPE 748

SPECIFICATIONS



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FULL-SIZE FLAT GRILL MODEL MWGF-9501

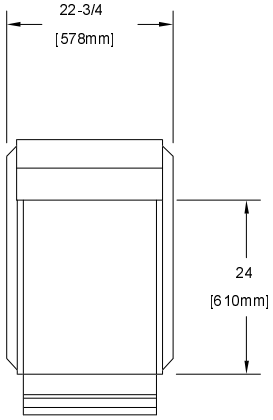
GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**18.46**	**20/25 mbar**	**8.75mbar**	**1.96 m3/h**
Propane	**18.88**	**30/37/50 mbar**	**25 mbar**	**1.46 kg/h**

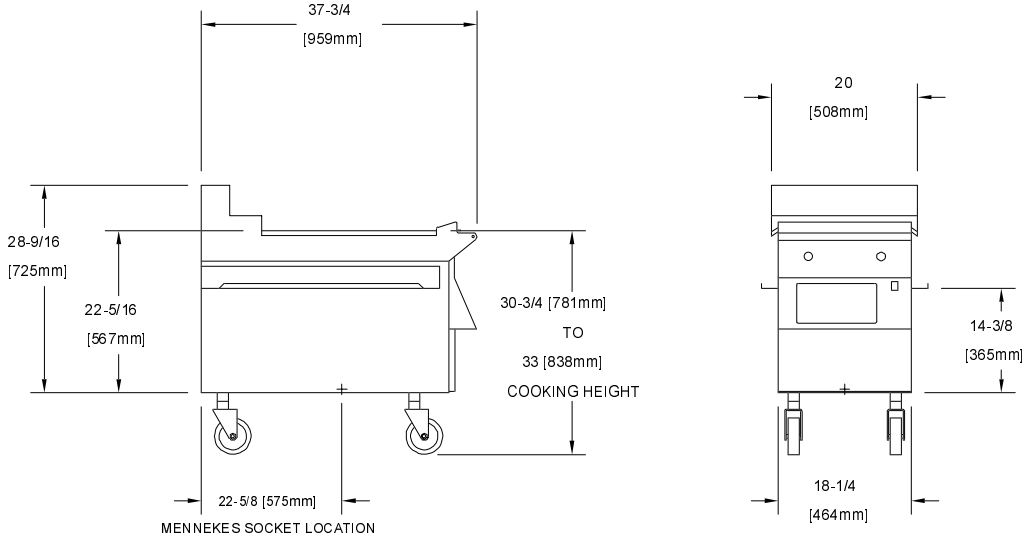
MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	5.0 kW	L1 7.6A	L2 8.0A	L3 7.6A	L1 7.2A	L2 9.5A	L3 7.2A	TYPE 748

SPECIFICATIONS





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HALF-SIZE FLAT GRILL MODEL MWGFH-9501

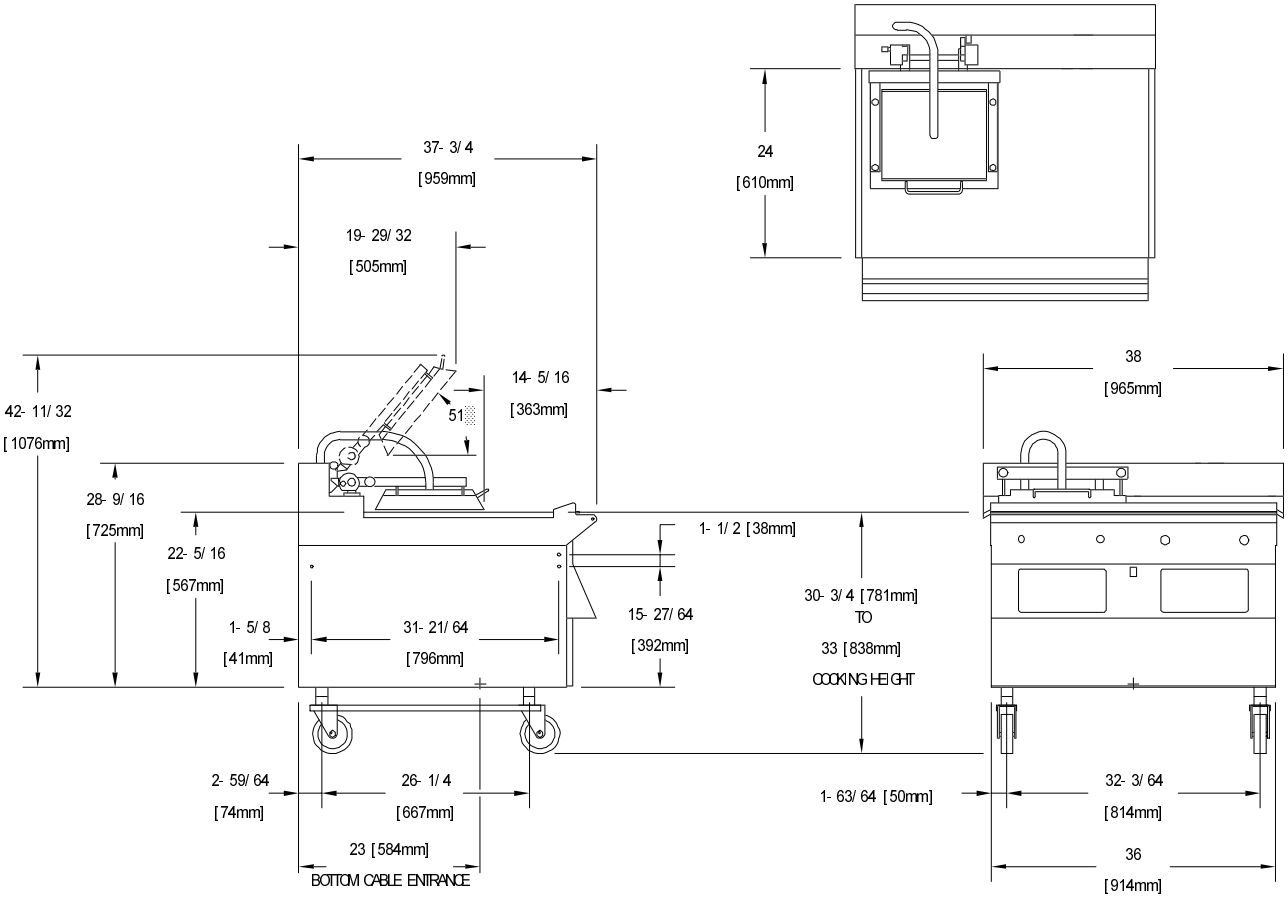
GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**18.46**	**20/25 mbar**	**8.75mbar**	**1.96 m3/h**
Propane	**18.88**	**30/37/50 mbar**	**25 mbar**	**1.46 kg/h**

MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	2.5 kW	L1 3.8	L2 4.0	L3 3.8	L1 3.6	L2 4.8	L3 3.6	TYPE 748

SPECIFICATIONS



THIS GRILL MUST BE INSTALLED IN A NON-COMBUSTIBLE GRILL STATION MANUFACTURED TO MCDONALD'S SPECIFICATION.

HALF & HALF GRILL MODEL MWGL-9501

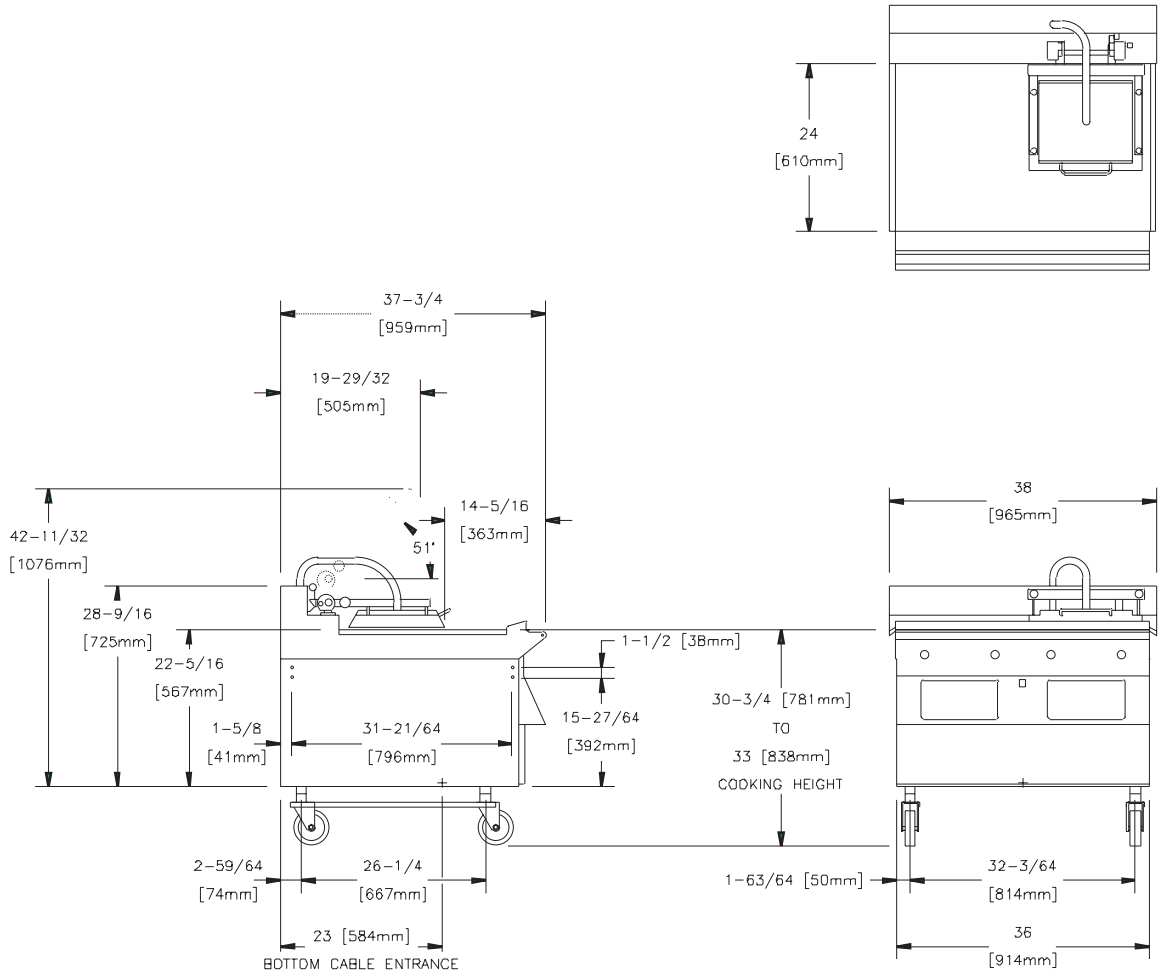
GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**18.46**	**20/25 mbar**	**8.75mbar**	**1.96 m3/h**
Propane	**18.88**	**30/37/50 mbar**	**25 mbar**	**1.46 kg/h**

MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	8.5 kW	L1 12.3	L2 14.6	L3 12.3	L1 10.8	L2 14.9	L3 10.8	TYPE 748

SPECIFICATIONS



THIS GRILL MUST BE INSTALLED IN A NON-COMBUSTIBLE GRILL STATION MANUFACTURED TO MCDONALD'S SPECIFICATION.

HALF & HALF GRILL MODEL MWGR-9501

GAS INPUT SPECIFICATIONS				
Gas Type	**Heat Input / kW**	**Setting Pressure**	**Manifold Pressure**	**Flow Rate**
Natural	**18.46**	**20/25 mbar**	**8.75mbar**	**1.96 m3/h**
Propane	**18.88**	**30/37/50 mbar**	**25 mbar**	**1.46 kg/h**

MINIMUM CLEARANCES FOR SERVICING:

	TOP	FRONT	LEFT SIDE	RIGHT SIDE	REAR
(mm)	*	600	150	150	150

ELECTRICAL REQUIREMENTS 3N~400V 50Hz	kW LOAD AT 400V	NOMINAL AMPERES PER LINE 380V			NOMINAL AMPS PER LINE 400V			MENNEKES PLUG REQUIRED
ONE 7 WAY SUPPLY CORD	8.5 kW	L1 12.3	L2 14.6	L3 12.3	L1 10.8	L2 14.9	L3 10.8	TYPE 748

INSTALLATION

IMPORTANT: RATING PLATE FOR THIS EQUIPMENT IS LOCATED IN TWO PLACES. ONE IS LOCATED INSIDE BACK PANEL ON LEFT SIDE, SECOND RATING PLATE LOCATED UNDER FRONT CONTROL PANEL ON CENTER.

This equipment must be installed by a competent factory trained, certified, licensed and / or authorized service or installation person.

WARNING. This appliance must be earthed.

Prior to installation, the four castors and two locking channels, supplied loose with the grill, must be securely located on the underside of the base. The castors fitted with a brake must be located at the front of the grill. The castors are located through the locking channel with the folded edges facing down, such that when all castors are located, they cannot rotate.

This appliance should be connected to a potential equalization system. To facilitate this a labeled equipotential bonding point is fitted to the rear of the grill.

It is recommended that this grill is connected to a residual current (earth leakage) device with a tripping current not exceeding 30mA. The leakage current of this grill will not exceed 5mA.

This grill is supplied with a seven pin socket, as specified by the McDonald's Corporation, for installation in new grill stations. This socket is supplied fitted to the grill at the factory. This socket allows for disconnection from the supply with all pole separation of at least 3mm.

For connection to existing older grill stations, please refer to your Kitchen Equipment Supplier for a conversion kit that allows connection to two power supply cords and one interlock cord. This kit must be connected according to the instructions and wiring diagram supplied with it and the warning labels supplied with the kit must be applied to the grill.

CAUTION: Prior to installation, check the electrical supply to ensure input voltage and phase match the equipment voltage rating and phase. See data plate located rear left side of grill and lower front panel.

Grill is to be located directly under ventilation system and fit securely with grill locks attached.

Once installed in the grill station underneath the ventilation system, the raised position of the upper platens must be adjusted to allow at least 40mm (1.6") of clearance between the handle on the front of the upper platen and the lower lip of the ventilation system hood. The raised position of each platen is adjusted by raising or lowering the upper of the two microswitches (limit switches) in the rear of the grill. The lower microswitch position must not be adjusted.

Grill plate must be level front to back, side to side and diagonally. This leveling must be done with the unit under the hood and in it's normal operational position to prevent warping of the grill plate.

NOTE: Once the platen elevation is adjusted, set the mechanical over-run bolts in the rear of the unit to prevent accidental over-run in the event of failure of the upper microswitch.

Installation shall be made with the gas connector that has been specified by The McDonald's Corporation and is supplied loose with the grill. The quick disconnect fitting and gas shut off valve must be installed in the direction indicated on their outer body.

National Codes Requirements:

The type of gas for which the grill is equipped is stamped on the data plate on the inside rear of the unit and on the lower front panel. Connect a grill stamped for Natural Gas (High (H) or Low (L) Calorific Value) only to Natural Gas; connect those stamped for Propane Gas only to Propane Gas. When installing gas grills, the installation must comply with the latest edition of the National Gas Installation Requirements.

When installing any type of gas-fired commercial kitchen equipment, the requirements of the National Fire Protection Association must be followed implicitly.

Gas Connections, and Pipe Sizing:

The size of the gas line is very important. If the line is too small, the gas pressure at the burner manifold will be low. This will cause slow recovery and delayed ignition. The incoming gas pressure line should be a minimum of 1-1/2". All grills require a 1" connection.

Before connecting new pipe the pipe must be blown out to dispose of any foreign particles. These particles will cause improper operation.

When using thread compound, use small amounts on male threads only. Use a compound that is not effected by the chemical action of LP gases. Avoid applying compound to the first two threads to prevent clogging of the burner orifices and control valve.

Have the installer check all gas plumbing with a soap solution for leaks. DO NOT USE matches, candles or other ignition sources in checking for leaks.

The grill must be disconnected from the gas supply system when pressure testing of that system at pressures in excess of 150mbar.

Check the data plate to determine the proper type of gas before connecting the quick disconnect or piping from the building gas supply.

An incoming gas pressure test nipple is provided on the incoming gas manifold for pressure checks.

Minimum incoming gas pressure for Natural Gas is 15 mbar. Maximum incoming gas pressure for Natural Gas is 35 mbar.

Minimum incoming gas pressure for LP Gas is 25 mbar. Maximum incoming gas pressure for LP Gas is 65 mbar

Burner operating gas pressure can be checked at the outlet side of the gas valve at the pressure test point.

Burner manifold pressure for Natural Gas must be 8.75 mbar. Burner pressure for LP Gas must be 25 mbar.

To adjust the burner pressure, remove the sealing screw from the pressure test nipple, connect a manometer, remove the sealing cap on the gas valve regulator, turn on the grill, adjust the screw in the regulator to give the correct pressure, turn off the grill, refit the regulator sealing cap, remove the manometer, replace the seal screw in the test nipple and test for gas leaks.

Gas pressures should be checked by the local Gas Company or an authorized service agency only.

Test all piping and connections for gas leaks. A rich soap solution should be used for this purpose. Never use a flame.

CHANGING TO A DIFFERENT GAS:

Changing from one gas category to another must only be done by a Qualified Gas Engineer.

To change from category II to III or vice versa, the gas valve, enrichment tube igniter and orifice must be changed to that supplied by the Authorized Service Agency for the gas you are changing to. On completion of changing these three components, you should test all joints for leaks, verify that the manifold pressure is adjusted to the value given in the specification pages in this manual, and repeat the burner air adjustment procedure. This is to be found on the following page in this manual. When the burner is correctly adjusted, the alternate rating plate decal must be placed over the existing rating plates to reflect the new category for which the grill is set.

To change from one gas type to another within the same category (High to Low Calorific Value Natural Gas or vice versa), change the orifice to that supplied by the Authorized Service Agency.

ELECTRICAL INSTRUCTIONS:

All electrically operated appliances must be electrically earthed in accordance with local codes; or in the absence of local codes, with the latest edition of National Wiring Regulations. A wiring diagram is located on the rear panel of the grill. See rating plate in rear of grill, or lower front panel for proper voltages.

WARNING: Installer Note - The grill is designed for connection to a special interlock system. Check receptacle wiring diagram before connecting. Diagram located in this manual and on the rear of the grill.

VENTILATION AND CLEARANCE:

One of the most important considerations of efficient grill operation is proper ventilation and air supply. Insure the grill is installed so the products of combustion are removed efficiently and the ventilation system does not produce drafts that interfere with proper burner operation.

Proper operation of exhaust fans (proper speed, rotation and adjustment) is essential. In addition to the exhaust system the make-up air system (HVAC) for the kitchen is the air supply for the combustion air for the burners. Proper incoming air is essential for all gas operated equipment. Poor incoming make-up will cause inefficient burner operation, delayed ignition and possible burner failure. Insure air balancing is performed on the system as required by the PMS card.

Any ventilation system will break down if improperly maintained. The duct system, the hood, and the filters must be cleaned on a regular basis and kept grease free.

The room containing the grill is required to have a permanent air vent. The minimum effective area of the vent shall be 4.5 cm^2 per kW. Air vents shall be of such a size to compensate for the effects of any extract fan in the premises.

INITIAL SETUP OF GRILL

BURNER AIR ADJUSTMENT:

1. Visually inspect the color of the burner tile. After the burner has been running for several minutes, the tile surface should be glowing DULL ORANGE, with very little or no blue haze visible above the tile surface. (Note: Just after the burner ignites, it will have some blue haze above the tile surface. This will remain until the tile has heated up and is glowing dull orange). If the burner does not become dull orange, then the burner air supply needs to be adjusted.

2. Loosen the lock nut holding the air adjustment in place. Slowly turn the air adjustment out (counterclockwise). The burner tile surface should begin to brighten.

3. If it brightens, then continue turning the screw counterclockwise until the burn tile surface brightens and then begins to have a blue haze to it again. Stop turning the adjuster. Begin turning the adjuster in while COUNTING THE NUMBER OF TURNS until the tile again has a blue haze. Stop tuning. Divide the number of turns turned in by half and unscrew (counterclockwise) the adjuster that number of turns. The adjustment is now complete. Tighten down the lock nut.

4. If the burner flame becomes more blue and starts lifting off the tile, turn the adjuster screw in (clockwise) until the burner tile surface brighten and then begins to have a blue haze to it again. Stop turning the adjuster. Begin turning the adjuster out while COUNTING THE NUMBER OF TURNS until the tile again has a blue haze. Stop tuning. Divide the number of turns turned in by half and screw (clockwise) the adjuster in to that number of turns. The adjustment is now complete. Tighten down the lock nut.

IGNITER ADJUSTMENT:

The Igniter location is factory set and does not normally require adjustment. Adjustment should only be conducted if the Micro-Amp (μA) reading taken by placing a Micro-Amp (μA) meter in line between the ignition module and the flame sense wire reads below 0.30 Microamps (μA). The normal reading is around 0.80 (μA). If the reading is low, the igniter can be a moved up or down to achieve the proper signal. The following is a description of the process.

1. Loosen the two 5\16” hex head #10 screws just outboard of the igniter. This allows the igniter and its bracket vertical movement.

2. With the Microamp meter in the flame sense line, and the adjustment screws just loose enough to be able to move the igniter assembly up and down, ignite the burner and move the igniter up and down until the maximum Microamp reading is achieved.

3. Tighten up the adjuster screws and the job is complete.

4. If 0.30 μA can not be achieved, there may be a defect in the igniter (cracked ceramic).

PLATEN ZEROING

NOTE: Gap calibration tool is located inside of grill on the right front side, directly below the motor speed controller.

Turn Master power switch **"ON", wait for controllers to display "OFF".**

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP".**
3. **PRESS** and **HOLD** the **"UP ARROW"** (↑) button for **ten, (10), seconds**, **"GAP CALIBRATION"** will be displayed.

Allow time for grill to heat and turn ready. Press both the Cancel (Green) and Standby (Black) buttons simultaneously to lower the upper platen.

Remove platen adjuster caps from all four adjustment points on each platen. Remove the four locking caps from the adjustment points. Using the adjusting tool lower platen until adjusting tool touches the arm assembly.

Left Side Platen

With gapping tool and working in a diagonal method, adjust **right rear** of platen until the gapping tool fits snugly between the upper platen and grill surface. Move next to the **left front** adjustment and raise the platen until the gapping tool fits snugly between the upper platen and grill surface.

Next go to the **left rear** and raise the platen until the gapping tool fits snugly between the upper platen and grill surface. Move next to the **right front** adjustment and raise the platen until the gapping tool fits snugly between the upper platen and grill surface.

You will need to go around and check proper gap several times before platen becomes truly level.

Replace left side platen adjuster locking caps **"hollow side down"** and snug tight.

Replace left side platen adjuster caps.

Right Side Platen

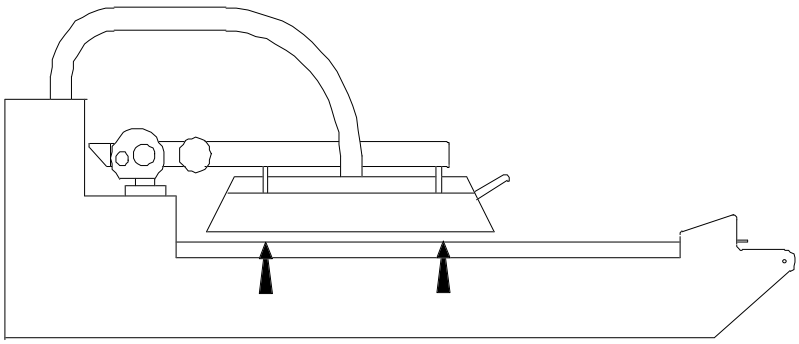
With gapping tool and working in a diagonal method, adjust **left rear** of platen until the gapping tool fits snugly between the upper platen and grill surface. Move next to the **right front** adjustment and raise the platen until the gapping tool fits snugly between the upper platen and grill surface.

Next go to the **right rear** and raise the platen until the gapping tool fits snugly between the upper platen and grill surface. Move next to the **left front** adjustment and raise the platen until the gapping tool fits snugly between the upper platen and grill surface.

You will need to go around and check proper gap several times before platen becomes truly level.

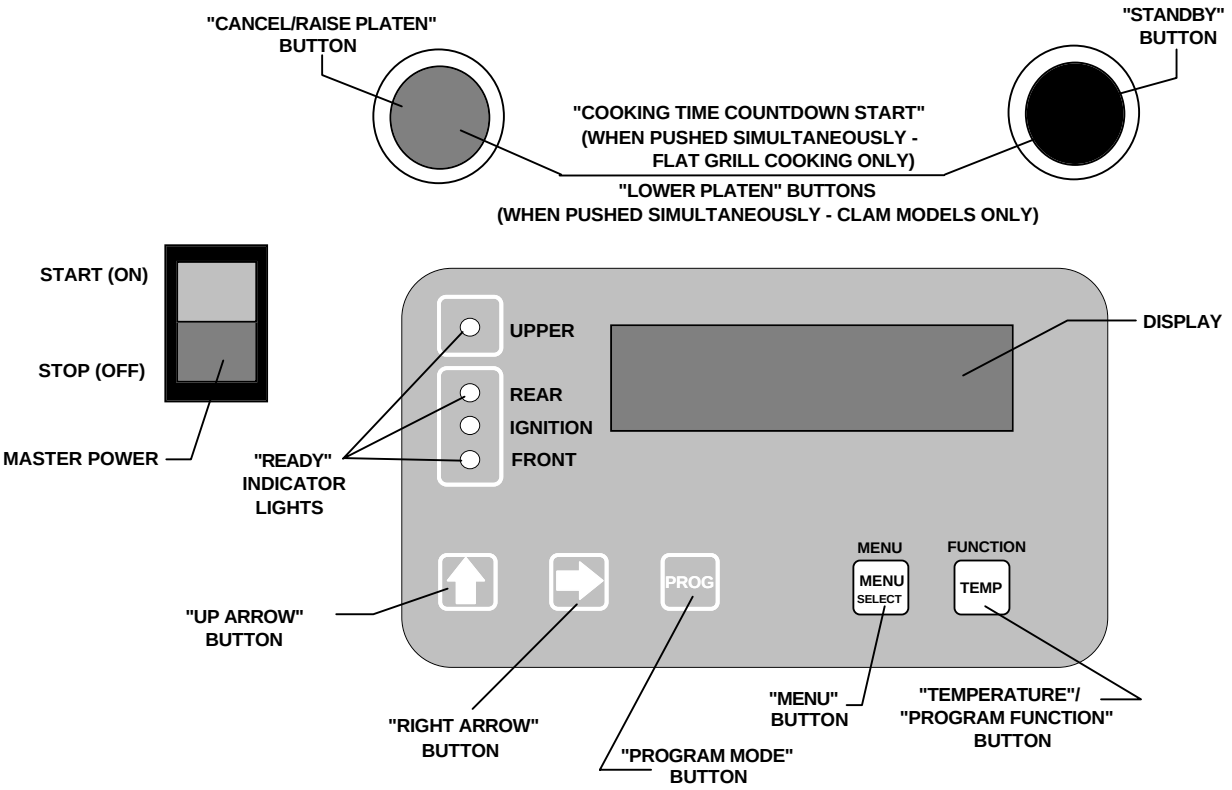
Replace right side platen adjuster locking caps **"hollow side down"** and snug tight.

Replace right side platen adjuster caps.



Check gap by inserting gapping tool directly below the adjustment points.

CLAMSHELL GRILL CONTROLS



DESCRIPTION OF GRILL CONTROLS

The Master Power (Start (On)-Stop (Off)) Switch:

Controls power to the grill and must be turned “ON" to start the operation. The controller displays will be active when the switch is "ON".

Indicator Lights:

There are four, (4), indicator lights. The center light in the lower group of three is the Gas Grill Indicator Light, explained in the next section. The top light an the top and bottom lights in the lower section indicate the temperature status of each zone on the grill, one, (1), on the upper platen, (top light), and two, (2), on the lower, (lower section of lights, top and bottom correspond to rear and front, respectively - see diagram on previous page). Each light can display three, (3), different colors, indicating temperature status for the corresponding zone.

Red: The zone(s) is too hot (more than 79ºF/45ºC over the set temperature) or heat zone(s) failure.

Amber: The zone(s) is calling for heat.

Green: The zone(s) is at or above the set temperature (maximum of 79ºF/45ºC).

Gas Grill Indicator Light:

The center light in the lower section indicates burner ignition status in the following ways:

Green: status OK.

Amber: Flashing indicates that ignition retrial has occurred at least once, (4 tries maximum). Once activated the flashing amber light will continue to flash, until ignition is achieved, (in four tries or less, total), at which time the light will remain amber, but stop flashing.

Red: Indicates that ignition was not accomplished after 4 tries, and that the ignition system has been shut down, requiring a manual reset, (power-down).

Display:

The controller display will contain information relevant to each operation in both cook and program modes.

Up Arrow Button - Two Functions:

1) In the cook mode, when depressed, it will display the Remove time, Top Temperature, Bottom temperature and Gap setting for the menu item displayed. Each item will be displayed in the order as stated above. After 5 seconds the display will return to the product menu item.

2) In the program mode, it will change the value of the current cursor digit, (see "RIGHT ARROW" button).

Right Arrow Button - Two Functions:

1) In the program mode various displayed parameters will be shown in numerical values. Each number, when displayed, will have a flashing digit...the cursor digit. The “RIGHT ARROW" button will move the cursor to the next digit. Using the "RIGHT ARROW" button in conjunction with the "UP ARROW" button described above, any parameter value displayed in the program mode may be altered.

2) In the cook mode it will scroll backward through the menu items.

Program Mode Button - Two Functions:

1) The primary function is to access Programming and Calibration of the grill. Push and hold for five (5) seconds. Display will show type and version number. There are two programming features, "MENU ITEMS" and "SYSTEM SETUP".

2) The second function is when used with "TEMP" button. To display all temperature zones at the same time, press the "TEMP" button one time and the 'PROG" button five (5) times. This will display all four (4) temperature zones.

Menu Button - Two Functions:

1) In the cook mode this button will allow you to change menu items.

2) In the programming mode, the button is used to advance to the next program item.

Temperature / Function Button - Two Functions:

1) In the Cook mode, each time the button is pressed the current temperature for one zone will be displayed. The displayed temperature begins at the upper platen and works sequentially to the front each time you press the button. After five (5) seconds the display will return to the menu item selected.

2) In the Program mode, this button becomes the Function button allowing you to scroll through the functions in the "MENU ITEMS" section of programming.

Standby Button - (Black):

When both "STANDBY" and "CANCEL/RAISE" buttons are pressed simultaneously, the upper platen will lower to the griddle surface. Press the “STANDBY” button again within five (5) seconds from the start of the cook cycle, to place the controller in its “standby” state. The display will flash "STANDBY" along with the menu item currently selected. For energy conservation and periods of non-use this will maintain grill temperatures.

Cancel/Raise Platen Button - (Green):

From the "STANDBY" mode, pushing this button will cancel “Standby” and raise platen. During the cooking cycle, pressing this button will cancel the cooking timer and return the grill to the "IDLE" mode.

NOTE: If the platen is in motion, pressing the “CANCEL/RAISE” button will stop the platen in motion and return the platen to the “IDLE” mode (E-prom version 3.52 and greater).

HOW TO - NORMAL OPERATING MODES

NOTE: TO STOP THE GRILL AT ANY TIME, TURN THE MASTER POWER SWITCH TO STOP

To Cook in Clam Grill Mode:

1. SELECT a clam grill menu by pressing the "MENU SELECT" button, until you attain the required Clam menu item. The display may read either "TOO COOL" or "TOO HOT," (alternating with the "MENU ITEM"), until the grill attains the set temperature range for that menu, then the "MENU ITEM," (only), will be displayed.

NOTE: If the display reads either "TOO COOL" or “TOO HOT" the upper platen will not lower and initiate a cooking sequence.

2. After laying product in the prescribed method, press the GREEN ("CANCEL/RAISE") and the BLACK ("STANDBY") buttons at the same time. An audible alert will sound and the platen will lower to the preset gap and the timing will automatically start.

3. When the cook cycle times down to five, (5), seconds remaining, a pre-time-out alarm will sound to alert the grill operator.

4. When the cooking time has been completed, the upper platen will raise and the display will flash "REMOVE" with an audible alert, then remove product per the prescribed method.

5. To cancel a cooking cycle, press the GREEN ("CANCEL/RAISE") button. The upper platen will rise. The display will flash "CANCEL" with an audible alert.

NOTE: If the alarm cancel is set to AUTO, the audible alert will sound five (5) seconds before timing is finished.

-OR-

If the alarm cancel is set to MANUAL, the audible alert will sound as the timing is finished.

To Cook in Flat Grill Mode:

1. SELECT a flat menu by pressing the "MENU SELECT" button, until you attain the required menu item. The display may read either "TOO COOL" or "TOO HOT" (alternating with the "MENU ITEM") until the grill attains the set temperature for that menu.

2. After laying product in the prescribed method, press the GREEN, ("CANCEL/RAISE"), and the BLACK, ("STANDBY"), buttons at the same time, starting the cooking time countdown.

NOTE: If the display reads either "TOO COOL" or “TOO HOT" the controller will not initiate a cooking sequence.

3. PERFORM the required functions displayed, i.e.; sear, turn, to cancel the audible alerts, press the BLACK ("STANDBY") button.

CAUTION: Pressing the GREEN ("CANCEL/RAISE") button will cancel the cooking cycle, and pressing any other button on the controller will cancel the alarm.

4. When the cooking time has been completed, the display will flash "REMOVE" with an audible alert. Remove product per the prescribed method.

NOTE: If a required flat grill menu cannot be found, go to the programming mode (see programming, “MENU ITEMS,” (Page 16).

Standby Mode:

1. SELECT a clam grill menu by pressing the "MENU SELECT" button, until you attain the required menu item.

NOTE: If the display reads either "TOO COOL" or "TOO HOT" the upper platen will not go into "STANDBY".

2. PRESS the GREEN ("CANCEL/RAISE") and the BLACK ("STANDBY") buttons at the same time. As soon as the upper platen moves down, release both buttons and press the BLACK ("STANDBY") button again, (within 5 seconds), from the start of a cook cycle,the display will read "STANDBY MODE" alternating with the "MENU ITEM".

EXIT the Standby Mode:

1. PRESS the GREEN ("CANCEL/RAISE") button. The upper platen will raise and the display will read "CANCEL" with an audible alarm.

To Display the Current Temperatures:

1. **PRESS** the **"TEMP"** button and **repeat for each zone** to be displayed.

   1st press - CENTER UPPER PLATEN
   2nd press - REAR LOWER ZONE
   3rd press - FRONT LOWER ZONE

NOTE: The temperatures may be displayed at any time, including during a cooking cycle.

***To display all temperature zones at the same time,* press the "TEMP" button one, (1), time, then the "PROG" button five, (5), times.**

To View Settings for a Menu Item:

1. With the required menu displayed, press the "UP ARROW " button (↑).

2. Pressing the "UP ARROW" button (↑) repeatedly will cycle through and display that menu's function time(s), set temperature(s) and the gap setting (if applicable).

NOTE: The display will return to the menu (menu name) **after five (5) seconds if the "UP ARROW"** button (↑) has not been pressed.

To Clean the Grill:

1. **PRESS** the **"MENU"** button to obtain the menu **"CLEAN MODE."** (The controls will maintain the proper cleaning temperature).

2. **"READY TO CLEAN"** will be displayed when the grill is at the **proper cleaning temperature** and an audible alarm will sound. **Press** the **"MENU"** button to display **"OFF."** The **"OFF"** position on the controllers allows the operator to raise and lower the upper platens to alternate positions for proper cleaning of the side and rear edges of the platens.

3. When cleaning is completed, you may turn the "MASTER POWER" (rocker) switch off.

NOTE: Be sure to check upper platen safety pin is disengaged (pulled out) prior to pushing grill back under grill.

Breakfast to Lunch Transition:

Approximately 30 minutes before changing to the **lunch menu**, perform the following:

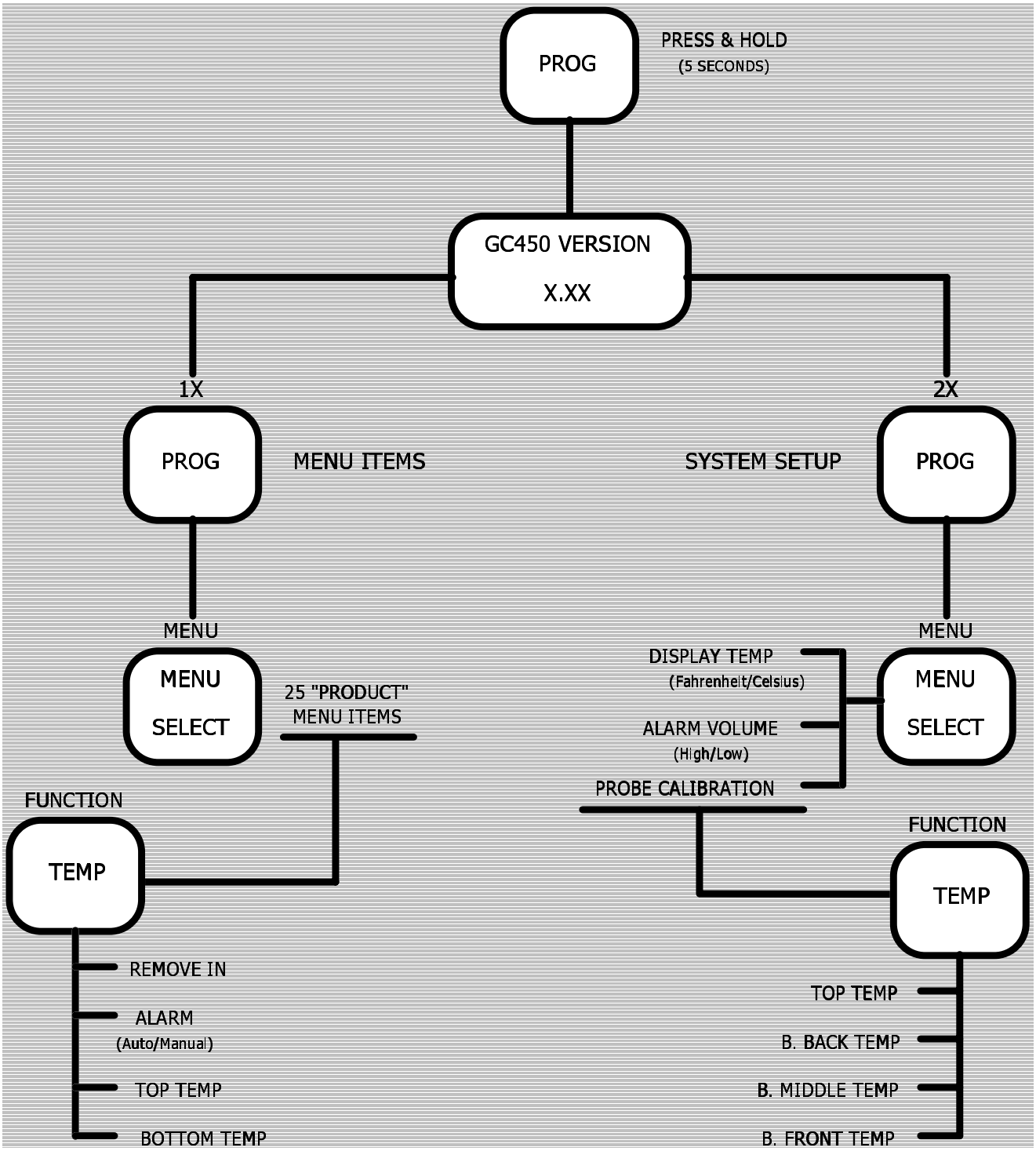
1. **PRESS** the **"TEMP"** button (to display the upper platen temperature).

2. **Press** the **"UP ARROW"** (↑) button.

3. The **upper platen indicator will light** (AMBER) and maintain the **normal operating** (set) **temperature.**

PROGRAM LOGIC CHART

The diagram below is a graphical representation of the control's menu structure in the program modes. The following pages detail the various programming procedures. After you become more familiar with these procedures, this diagram will serve as a quick reference to the program functions and the key sequences needed to access them.



HOW TO - PROGRAM MODES

SYSTEM SETUP

To Display Temperatures in ºF or ºC:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP"**.
3. **PRESS** the **"MENU"** button to display **"DISPLAY TEMP. IN : ºF/ºC".**
4. **PRESS** the **"UP ARROW"** button (↑) to change **ºF or ºC.**
5. **PRESS** the **"PROG"** button to display **"SYSTEM SETUP".**
6. **PRESS** the **"RIGHT ARROW"** button (→) to **return to** the normal **OPERATING MODE.**

To - Change the Speaker Volume, (High/Low):

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP".**
3. **PRESS** the **"MENU"** button to display **"ALARM VOLUME".**
4. **PRESS** the **"UP ARROW"** button (↑) to **change (HIGH/LOW).**
5. **PRESS** the **"PROG"** button to display **"SYSTEM SETUP".**
6. **PRESS** the **"RIGHT ARROW"** button (→) to **return to** the normal **OPERATING MODE.**

To Change the Gap Calibration:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP".**
3. **PRESS** and **HOLD** the **"UP ARROW"** (↑) button for **ten, (10), seconds**, **"GAP CALIBRATION"** will be displayed.
4. **PRESS** the **"UP ARROW"** button (↑) again, the **"+" (PLUS)** button **to increase** the value **OR** the **"RIGHT ARROW"** button (→), **"-" (MINUS) to decrease** the value.
5. **PRESS** the **"PROG"** button to display **"SYSTEM SETUP".**
6. **PRESS** the **"RIGHT ARROW"** button (→), **to return** to the normal **OPERATING MODE.**

To Enable Hold Feature: (Chip Ver. 3.20 >):

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP".**
3. **PRESS** and **HOLD** the **"UP ARROW"**(↑) button for **ten, (10), seconds**, **"GAP CALIBRATION"** will be displayed.
4. **PRESS** the **"MENU"** button. The hold feature will display "OFF".
5. **HOLD the "RIGHT ARROW"** (→) for ten, (10), seconds, the "OFF WILL FLASH".
6. **PRESS the "UP ARROW" (** ↑) to change the safety (ON/OFF).
7. **PRESS** the "PROG" button to display "SYSTEM SETUP".
8. **PRESS** the "RIGHT ARROW" button (→) to return to the normal **OPERATING MODE.**

MENU ITEMS

To Add or Delete A Menu Item:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, 5 seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".
3. **PRESS** the "**MENU**" button to display the menu you want to add/delete.
4. **PRESS** the "**UP ARROW**" button (↑) to change "**Y**" or "**N**".

5. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

6. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE**.

To Change Remove Time:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, 5 seconds**. (Display will flash GC450 and the program version number).

2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".

3. **PRESS** the "**MENU**" button to display the menu you want to adjust.

4. **PRESS** the "**FUNCTION**" button **one time** to display "**REMOVE IN XXX**".

5. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.

6. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.

7. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

8. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE**.

To Change Alarm Auto / Manual:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, 5 seconds**. (Display will flash GC450 and the program version number).

2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".

3. **PRESS** the "**MENU**" button to display the menu you want to adjust.

4. **PRESS** the "**FUNCTION**" button **two times** to display "**ALARM** ".

5. **PRESS** the "**UP ARROW**" button (↑) to change the setting (**AUTO/MANUAL**).

6. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

7. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE**.

To Change Upper Platen Temperature:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, 5 seconds**. (Display will flash GC450 and the program version number).

2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".

3. **PRESS** the "**MENU**" button to display the menu you want to adjust.

4. **PRESS** the "**FUNCTION**" button **three times** to display "**TOP TEMP**".

5. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.

6. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.

7. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

8. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE**.

To Change Griddle Temperature:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, 5 seconds**. (Display will flash GC450 and the program version number).

2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".

3. **PRESS** the "**MENU**" button to display the menu you want to adjust.

4. **PRESS** the "**FUNCTION**" button **four times** to display "**BOTTOM TEMP XXX**"

5. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.

6. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.

7. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

8. **PRESS** the "**RIGHT ARROW**" button(→) to return to the normal **OPERATING MODE**.

To Change the Gap Setting:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds.** (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP."**
3. **PRESS** and **HOLD** the **"UP ARROW"** button (↑) for **ten (10) seconds, "GAP CALIBRATION"** will be displayed.
4. **PRESS** the **"PROG"** button **twice** to display **"MENU ITEMS."**
5. **PRESS** the **"MENU"** button to display the **menu(s)** of the **gap(s) to be changed.**
6. **PRESS** the **"FUNCTION"** button to obtain **"GAP SETTINGS ".**
7. **PRESS** the **"RIGHT ARROW"** button (→) **to move the cursor**, (blinking digit), to the required digit position.
8. **PRESS** the **"UP ARROW"** button (↑) **to obtain the desired number** (O - 9).
9. **PRESS** the **"PROG"** button to display **"MENU ITEMS".**
10. **PRESS** the **"RIGHT ARROW"** button (→) to return to the normal **OPERATING MODE.**

To Add/Program a Optional Menu Clam:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds.** (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **twice** to display **"SYSTEM SETUP."**
3. **PRESS** and **HOLD** the **"UP ARROW"** button (↑) for **ten (10) seconds, "GAP CALIBRATION"** will be displayed.
4. **PRESS** the **"PROG"** button **twice** to display **"MENU ITEMS."**
5. **PRESS** the **"MENU"** button to display "OPTIONAL MENU (1)(2)(3) Clam".
6. **PRESS** the "**UP ARROW**" button (↑) to change "**Y/N**".
7. **PRESS** the **"FUNCTION"** button to obtain **"REMOVE IN XXX".**
8. **PRESS** the **"UP ARROW"** button (↑) **to obtain the desired number** (O - 9).
9. **PRESS** the **"RIGHT ARROW"** button (→) **to move the cursor**, (blinking digit), to the required digit position.
10. **PRESS** the "**FUNCTION**" button to display "**ALARM** ".
11. **PRESS** the "**UP ARROW**" button (↑) to change the setting (**AUTO/MANUAL**).
12. **PRESS** the "**FUNCTION**" button to display "**TOP TEMP**". Top Temp. Default = OFF.
13. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
14. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.
15. **PRESS** the "**FUNCTION**" button to display "**BOTTOM TEMP XXX**". Bottom Temp. Default = OFF.
16. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
17. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.
18. **PRESS** the "**FUNCTION**" button to obtain "**GAP SETTING**".
19. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
20. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.
21. **PRESS** the "**FUNCTION**" button to obtain display "**OPTIONAL MENU CLAM**". To Label the New menu:
22. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
23. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value. (Alpha-numeric capabilities).
24. **PRESS** the **"PROG"** button to display **"MENU ITEMS".**
25. **PRESS** the **"RIGHT ARROW"** button (→) to return to the normal **OPERATING MODE.**

To Add/Program Optional Menu Flat:

1. **PRESS** and **HOLD** the **"PROG"** button for **five, (5), seconds.** (Display will flash GC450 and the program version number).
2. **PRESS** the **"PROG"** button **once** to display **"MENU ITEMS."**
3. **PRESS** the **"MENU"** button to display "**OPTIONAL MENU (1)(2)(3) Flat**".
4. **PRESS** the "**UP ARROW**" button (↑) to change "**Y/N**".
5. **PRESS** the **"FUNCTION"** button to obtain **"SEAR IN XXX".**
6. **PRESS** the **"UP ARROW"** button (↑) to obtain the desired number (O - 9).
7. **PRESS** the **"RIGHT ARROW"** button (→) to move the cursor, (blinking digit), to the required digit position.
8. **PRESS** the "**FUNCTION**" button to display "**ALARM** ".
9. **PRESS** the "**UP ARROW**" button (↑) to change the setting (**AUTO/MANUAL**).
10. **PRESS** the "**FUNCTION**" button to obtain "**TURN IN XXX**".
11. **PRESS** the **"UP ARROW"** button (↑) to obtain the desired number (O - 9).
12. **PRESS** the **"RIGHT ARROW"** button (→) to move the cursor, (blinking digit), to the required digit position.
13. **PRESS the "FUNCTION" button to display "ALARM ".**
14. **PRESS** the "**UP ARROW**" button (↑) to change the setting (**AUTO/MANUAL**).
15. **PRESS** the "**FUNCTION**" button to display "**REMOVE IN** ".
16. **PRESS** the **"UP ARROW"** button (↑) to obtain the desired number (O - 9).
17. **PRESS** the **"RIGHT ARROW"** button (→) to move the cursor, (blinking digit), to the required digit position.
18. **PRESS the "FUNCTION" button to display "ALARM ".**
19. **PRESS the "UP ARROW" button (↑) to change the setting (AUTO/MANUAL).**
20. **PRESS** the "**FUNCTION**" button to display "**TOP TEMP**". **Flat Mode Top Temp is set to OFF.**
21. **PRESS** the "**FUNCTION**" button to display "**BOTTOM TEMP XXX**". Bottom Temp. Default = OFF.
22. **Press** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
23. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value.
24. **PRESS** the "**FUNCTION**" button to obtain display "**OPTIONAL MENU FLAT**". To Label the New menu:
25. **PRESS** the "**UP ARROW**" button (↑) to change the value of the flashing digit.
26. **PRESS** the "**RIGHT ARROW**" button (→) to advance the cursor to the right for changing its value. (Alpha-numeric capabilities).
27. **PRESS** the **"PROG"** button to display **"MENU ITEMS".**
28. **PRESS** the **"RIGHT ARROW"** button (→) to return to the normal **OPERATING MODE.**

To Add/Program High Limit Grill:

1. **PRESS** and **HOLD** the **"PROG"** button for **five**, **5 seconds**. (Display will flash GC450 and the program version number).
2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".
3. **PRESS** the "**MENU**" button to display **"HIGH LIMIT GRILL"**.
4. **PRESS** the "**UP ARROW**" button (↑) to change "**Y**" or "**N**".
5. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".
6. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE**.

To Add/Program High Limit Platen:

1. **PRESS** and **HOLD** the **"PROG"** button for **five**, **5 seconds**. (Display will flash GC450 and the program version number).

2. **PRESS** the "**PROG**" button **one time** to display "**MENU ITEMS**".

3. **PRESS** the "**MENU**" button to display **"HIGH LIMIT PLATEN"**.

4. **PRESS** the "**UP ARROW**" button (↑) to change "**Y**" or "**N**".

5. **PRESS** the "**PROG**" button to display "**MENU ITEMS**".

6. **PRESS** the "**RIGHT ARROW**" button (→) to return to the normal **OPERATING MODE.**

CALIBRATION

THIS CALIBRATION PROCESS SHOULD BE DONE BI-WEEKLY

Bi-Weekly Calibration of Grill Temperature Zones
Tools: Digital Pyrometer with Surface Probe

Warning: PERSONAL INJURY FROM BURNS MAY RESULT WHEN COMING IN CONTACT WITH HOT COOKING SURFACES.

NOTE: Calibration of grills is done with release material sheets "**ON**".

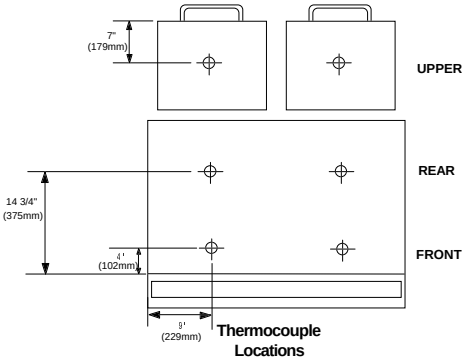
1. The upper platens and lower grill plate should be at operating temperatures to perform this calibration procedure. Press the "MENU" button to select a "*CLAM"* operation and allow the grill to reach the set temperature and stabilize, (approximately 30 minutes).

2. **Press** and **hold** the "**PROG**" button for **5 seconds** to enter the program mode, then **press** "**PROG**" button (**2) times** to access the ***"SYSTEM SETUP"***.

3. Under *"SYSTEM SETUP,"* **press** the "**MENU**" button **(3) three times** to select ***"PROBE CALIBRATION."***

4. **Press** the "**FUNCTION**" button repeatedly to cycle through the actual temperatures of the three, (3), heat zones; *UPPER, REAR* and *FRONT.*

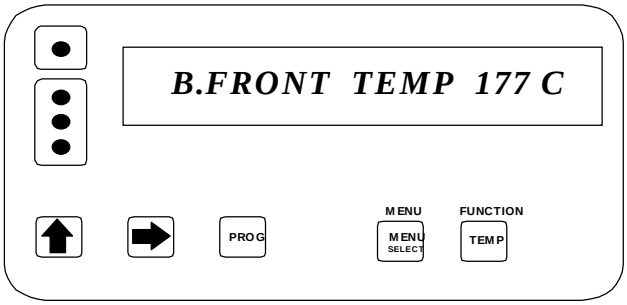
The grill's thermocouple probes are located front to rear, as shown in the diagram below, on each half of the lower grill plate in the center of the cooking zone. Each upper platen has one thermocouple probe in the center.



5. Select a heat zone display, then place the surface probe of the digital pyrometer directly on the grill at the same heat zone.

6. Allow at least 10 seconds for the pyrometer to respond and stabilize. Note the temperature on the pyrometer.

7. If the temperature on the grill control display does not match the temperature on the pyrometer, adjust the temperature on the grill control accordingly. The "UP ARROW" button will increase the displayed temperature in one, (1) degree increments. The "RIGHT ARROW" button will decrease the displayed temperature in one, (1), degree Increments.



8. Press the "FUNCTION" button to select the next heat zone.

9. Move the pyrometer's surface probe to the newly selected heat zone and repeat steps 6 and 7 above.

10. Repeat the procedure for each of the heat zones.

11. Exit the program mode by pressing the "PROG" button, then the "RIGHT ARROW" button. This will return the grill to the clam mode originally chosen.

NOTE: Grill DOES NOT heat while probe calibration is being performed.

CLEANING AND MAINTENANCE

Tools: **McD Hi-Temp Grill Cleaner (HCS), McD All Purpose Super Concentrate (HCS),** McD's NO-SCRATCH™ Pad and Pad Holder, a suitable container, High-Temperature Pot Brush and Grill Cloth, Stainless Steel Pan Filled With Lukewarm Water, Protective Gloves, (to protect hands from heat), Grill Squeegee and Grill Scraper.

Warning: **The upper platen surface and edges are very hot! To prevent burn injuries, use extreme caution when wiping down release sheets and platen edges.**

Important: Frequently throughout the day, (at least 4 times per hour), thoroughly wipe down the release sheets and platen edges with a damp grill cloth.

1. **Press** the "**MENU**" button until "**CLEAN MODE**" is displayed, (the control will maintain the proper cleaning temperature). Repeat with the other control. "**READY TO CLEAN**" will be displayed and an audible alarm will sound when the grill is at the proper cleaning temperature. **Press** the "**MENU**" button to display "**OFF.**" The "**OFF**" position on the controllers allows the operator to raise and lower the upper platens, (for clamshell grills), to alternate positions for proper cleaning of the platen edges.

2. Empty and replace the grease troughs. Grease troughs should be emptied and replaced consistent with store security policy.

3. Put on the protective gloves and wipe down the exposed surface of the release sheet with a damp grill cloth.

4. Remove the release sheet locking clips and bars. Clean the release sheets following the instructions provided by your local cleaning chemical supplier.

5. Scrape only the lower grill surface with the grill scraper, and squeegee any residue into the grease troughs with the grill squeegee.

Caution: **Do not scrape or otherwise scratch the upper platens. The use of metal scrapers, abrasive pads, or wire brushes will permanently damage the surface of the upper platens.**

6. Open one packet of **McD Hi-Temp Grill Cleaner, (HCS),** and empty the contents into a suitable container. (One packet cleans a 3ft. grill).

7. Firmly attach the McD NO-SCRATCH™ Pad to the pad holder.

8. Dip the NO-SCRATCH™ Pad into the grill cleaner.

9. Spread a light coating of grill cleaner over the entire platen surface, BACK, FRONT AND SIDE EDGES of both upper platens. DO NOT SCRUB WHILE APPLYING THE PRODUCT.

10. After applying the grill cleaner, lightly scrub the platen surfaces, BACK, FRONT AND SIDE EDGES with the NO-SCRATCH™ Pad until all the soil has been liquefied by the grill cleaner. For stubborn soils, apply additional grill cleaner and lightly scrub. DO NOT RINSE THE PLATENS AT THIS TIME.

11. Starting at the back of the lower grill, spread a light coating of grill cleaner over the entire surface. DO NOT SCRUB WHILE APPLYING THE PRODUCT.

12. After applying the grill cleaner, lightly scrub the grill surface with the NO-SCRATCH™ Pad until all the soil has been liquefied.

13. For Clamshell Grills, rinse the upper platens with a dripping wet grill cloth. RINSE PLATEN EDGE THOROUGHLY, THEN WIPE DOWN BACK EDGE OF PLATEN.

14. Carefully pour small quantities of lukewarm water onto the grill while brushing the surface, backsplash, and bullnose with a LONGLIFE™ pot brush or equivalent high-temperature brush. Continue until the water no longer boils away and the grill remains wet. Squeegee dry.

Caution: **Ice, cold water, or large quantities of water must never be applied to the grill plate or upper platen. Severe damage to the grill will occur!**

15. Clean the release sheets as follows:

    A) Place the sheets on the lower grill. Scrub both sides of the sheets with the same McD NO-SCRATCH™ Pad used on the grill.

Note: It is generally not necessary to apply additional product to the NO-SCRATCH™ Pad. If the pad is not wet enough, rewet with a small amount of water, if no cleaner is left.

    B) Rinse both sides of the sheets with a wet grill cloth.

    C) Drape the clean sheet over the grill towel bar.

16. Rinse the lower grill by flooding the surface twice with lukewarm water. Squeegee after each rinse.

17. Wipe the lower grill surface, backsplash, bullnose, and hood with a clean, damp grill cloth.

AFTER CLEANING: Apply a thin coat of fresh shortening to the lower grill surface only. Wipe down the surrounding areas. Empty, wash, rinse, and replace the grease troughs.

Note: Repeat this procedure to clean additional grills. Reverse NO-SCRATCH™ Pad, and use clean side.

CLEANING AFTER EACH RUN OF PRODUCT:

Using grill scraper, scrape grease on lower grill plate from front to back only. Do not scrape across the rear of the lower grill plate with grill scraper.

Use wiper squeegee to clean release material sheet on upper platen in a downward motion. Hold handle at a slight upward angle with wiper end facing downward. Do not press hard against the release material sheet to prevent scratching or tearing.

Push the grease at the rear of the lower grill plate into the grease cans using the wiper squeegee only. Do not use the grill scraper for this step.

Warning: Grill Temperatures will cause severe skin burns.

Use the grill cloth to clean back splash and bullnose areas as needed during operation.

Note: To increase life of release material sheet, wipe down with folded grill cloth four (4) times every hour.

TROUBLESHOOTING

ERROR MESSAGES:

"PROBE OPEN" (flashing):
An open probe condition has occurred. The controller will turn the heater controlled by the malfunctioning probe OFF. If the open probe condition should correct itself; the control will return to the ''IDLE MODE ''.

"CLAM DID NOT GO DOWN":
Occurs if the platen does not reach the proper position (GAP SETTING) in 30 seconds. You may cancel the message by pressing the "TEMP" button.

"UPPER PLATEN STUCK":
Occurs when the controller does not get an upper platen setting signal 15 seconds after it starts to raise the platen. In order to return to the "IDLE MODE", the controller must get a upper platen setting signal. You may cancel the message by pressing the "TEMP" button followed by the GREEN ("RAISE") button in order to retry raising the platen.

"EEPROM CORRUPT "
Displayed at startup when the controller detects a corrupt menu item or when a new version of the software is loaded. To cancel this message, switch the grill **"off"** and **"on"** again at the main power switch.

"FAULTY ELEMENT" / "SHORTED PROBE" (alternating):
Occurs when the controller does not detect a proper temperature response. Also, the RED LED will light, indicating which element /probe is in error.

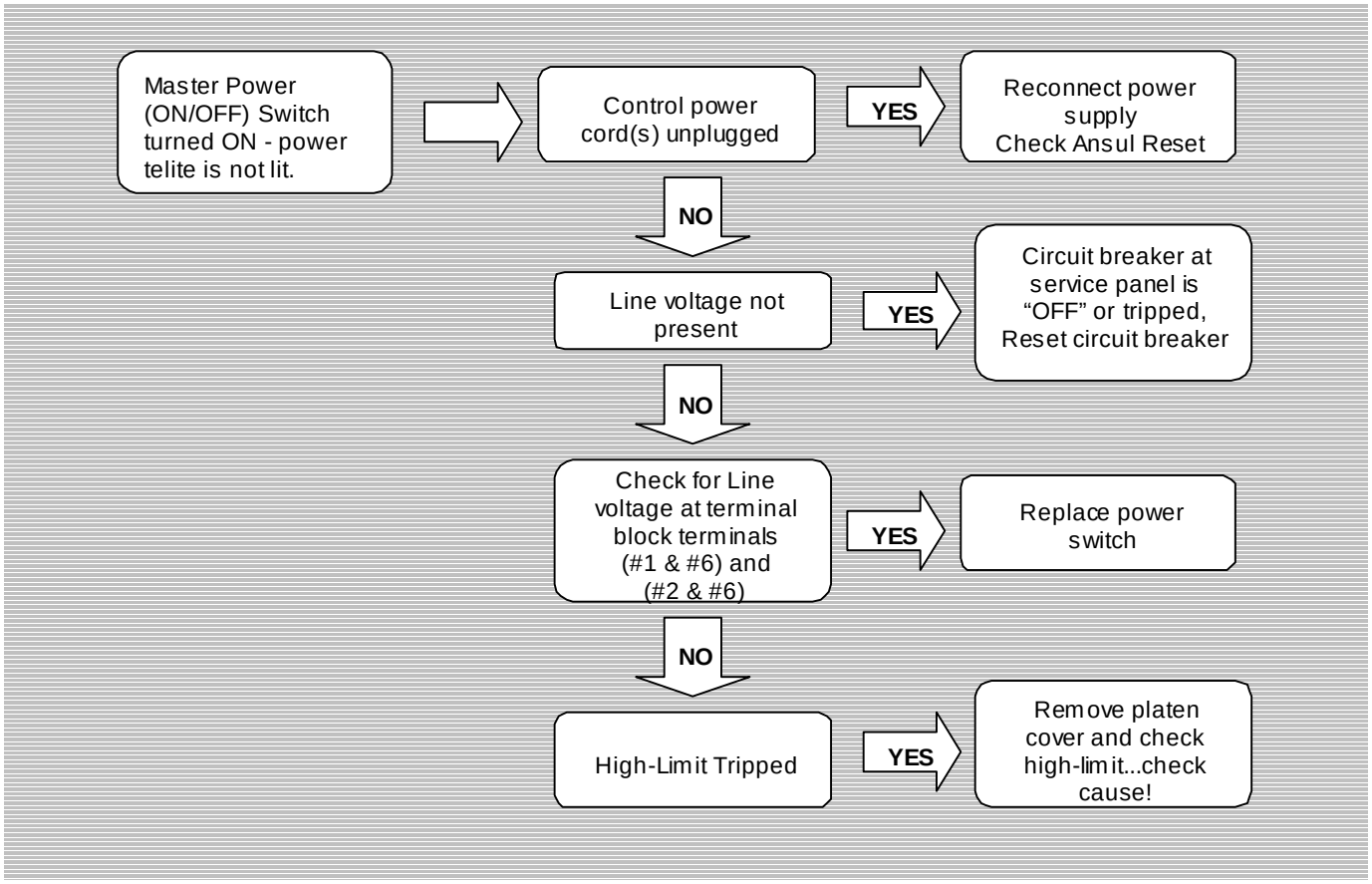
NOTE: Should all four, (4), LED's flash RED approximately four, (4), minutes after the unit is turned on, ensure that the main three-phase, (large), power cord is plugged in and the main circuit breaker is ON.

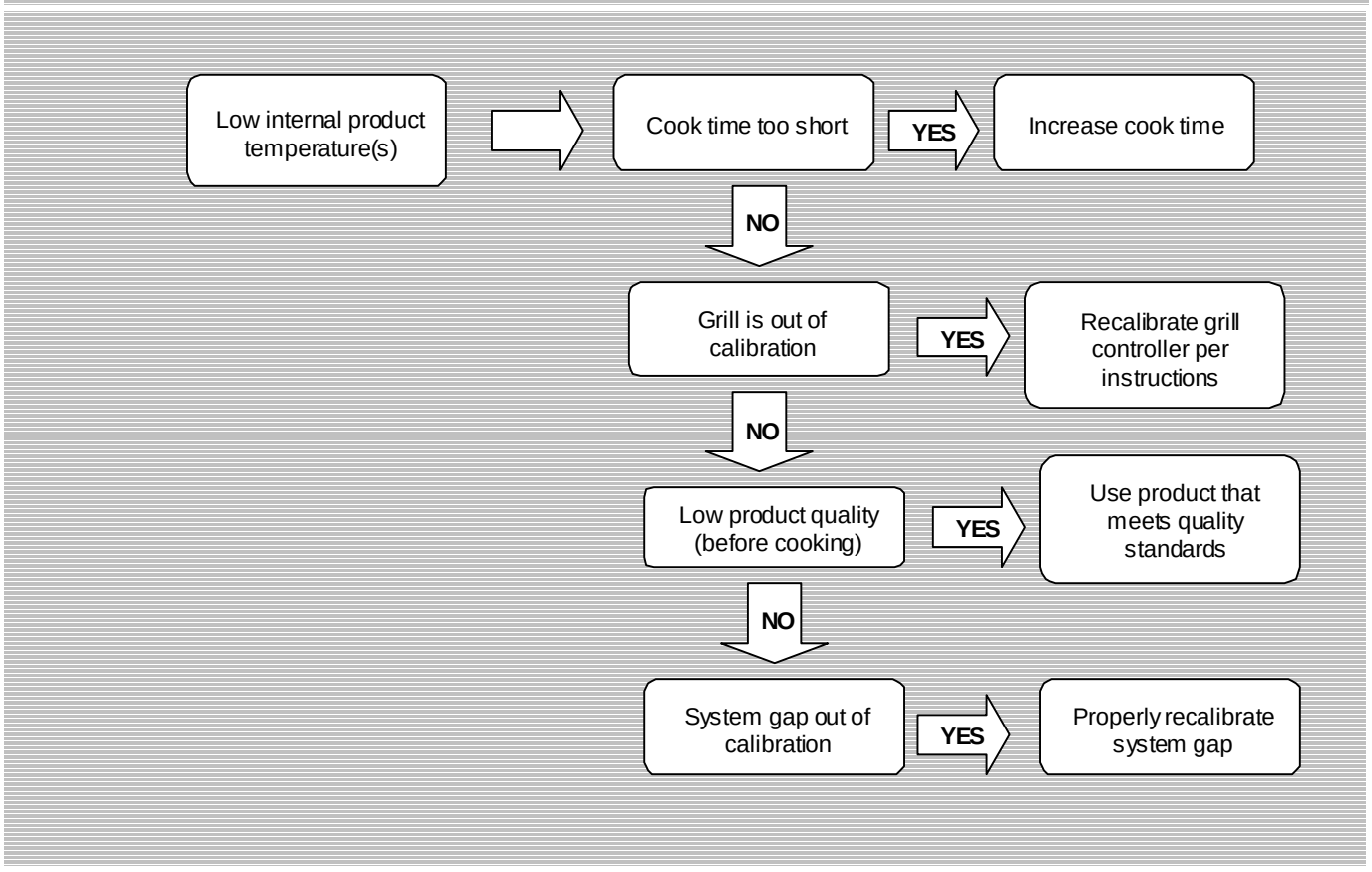
"MOTOR OVERCURRENT":
Occurs when:

1. The upper platen has been mechanically resisted the platen will stop.

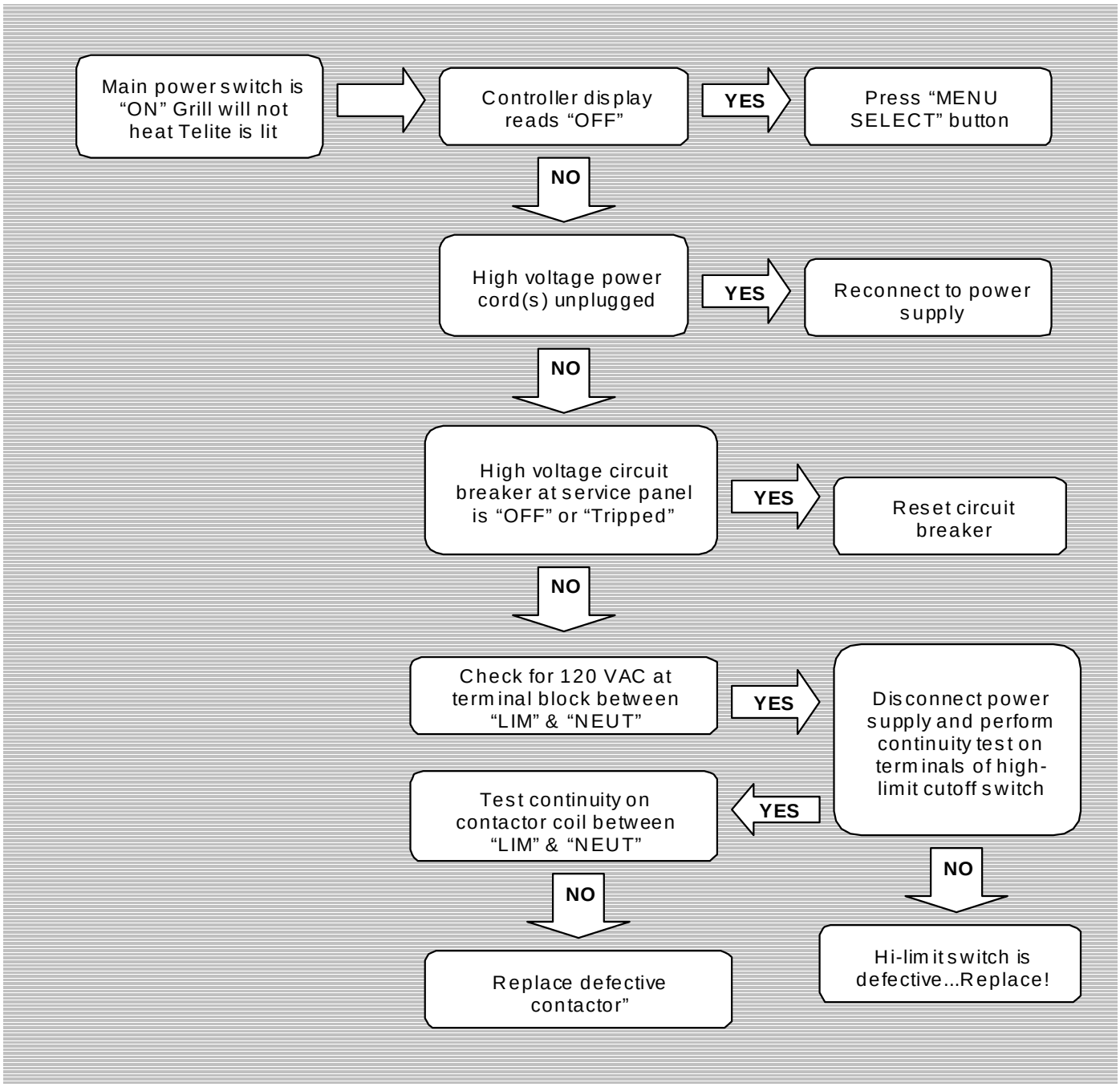
2. The platen control motor is inoperative. Turn the "MASTER POWER" switch OFF, then ON again.

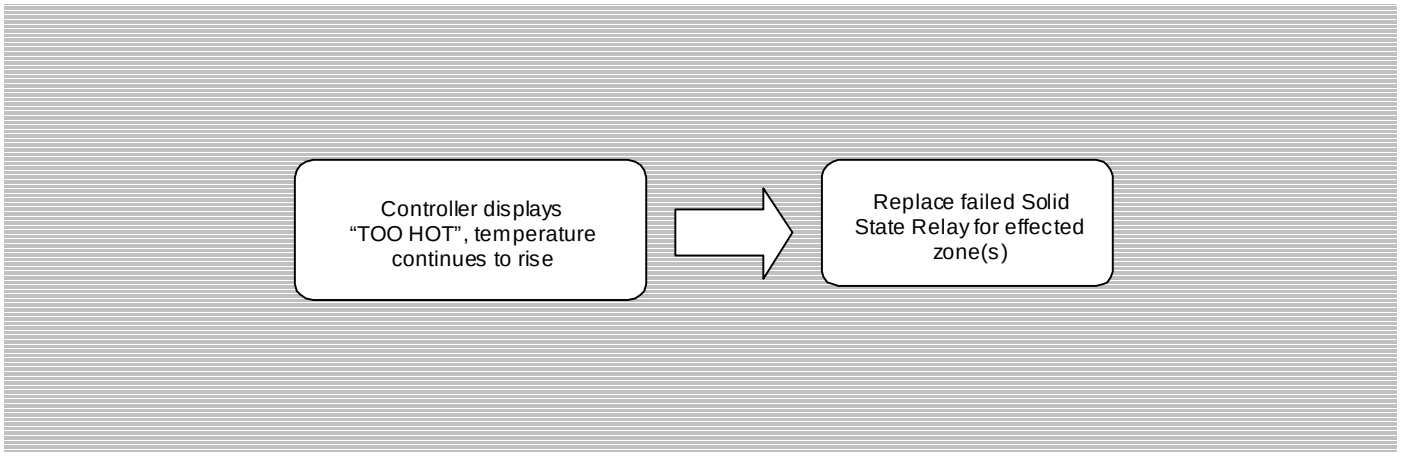
TROUBLESHOOTING


Master Power (ON/OFF) Switch turned ON - power telite is not lit.
Control power cord(s) unplugged
YES
Reconnect power supply Check Ansul Reset
NO
Line voltage not present
YES
Circuit breaker at service panel is "OFF" or tripped, Reset circuit breaker
NO
Check for Line voltage at terminal block terminals (#1 & #6) and (#2 & #6)
YES
Replace power switch
NO
High-Limit Tripped
YES
Remove platen cover and check high-limit...check cause!

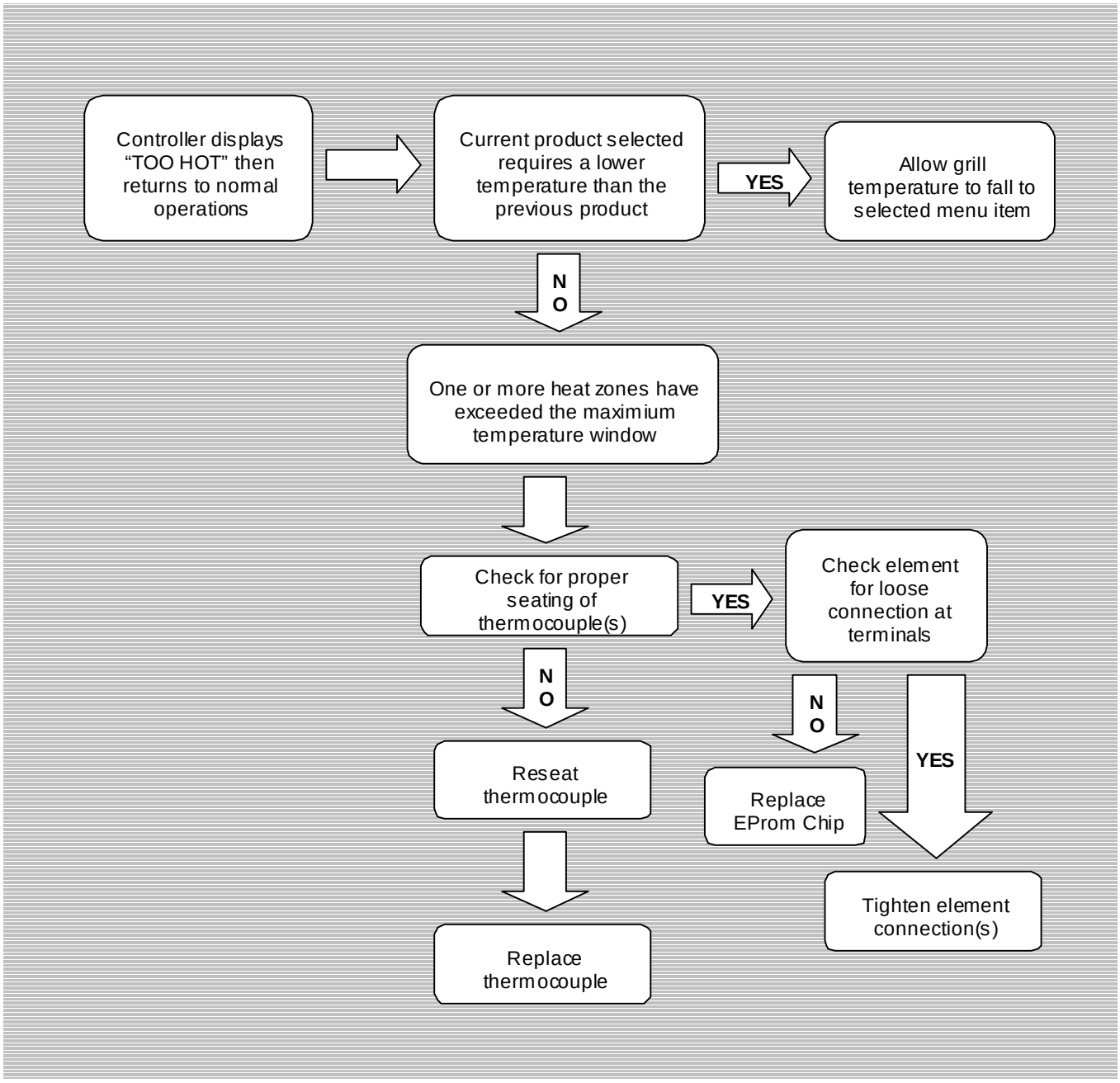


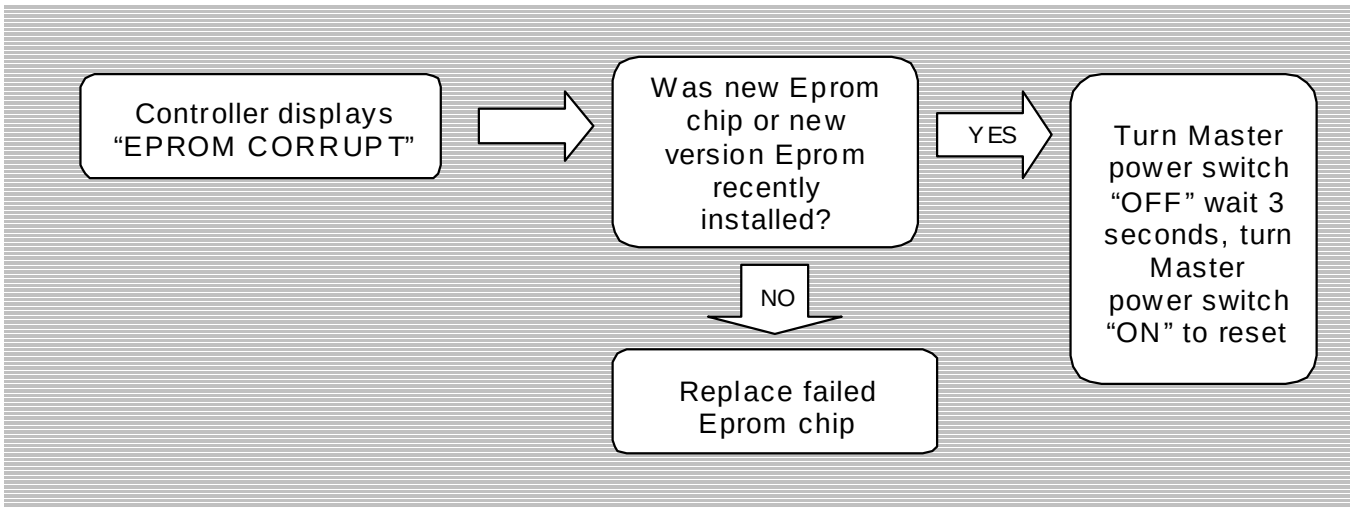
TROUBLESHOOTING


Main power switch is "ON" Grill will not heat Telite is lit
Controller display reads "OFF"
YES
Press "MENU SELECT" button
NO
High voltage power cord(s) unplugged
YES
Reconnect to power supply
NO
High voltage circuit breaker at service panel is "OFF" or "Tripped"
YES
Reset circuit breaker
NO
Check for 120 VAC at terminal block between "LIM" & "NEUT"
YES
Disconnect power supply and perform continuity test on terminals of high-limit cutoff switch
Test continuity on contactor coil between "LIM" & "NEUT"
YES
NO
Hi-limit switch is defective...Replace!
NO
Replace defective contactor"

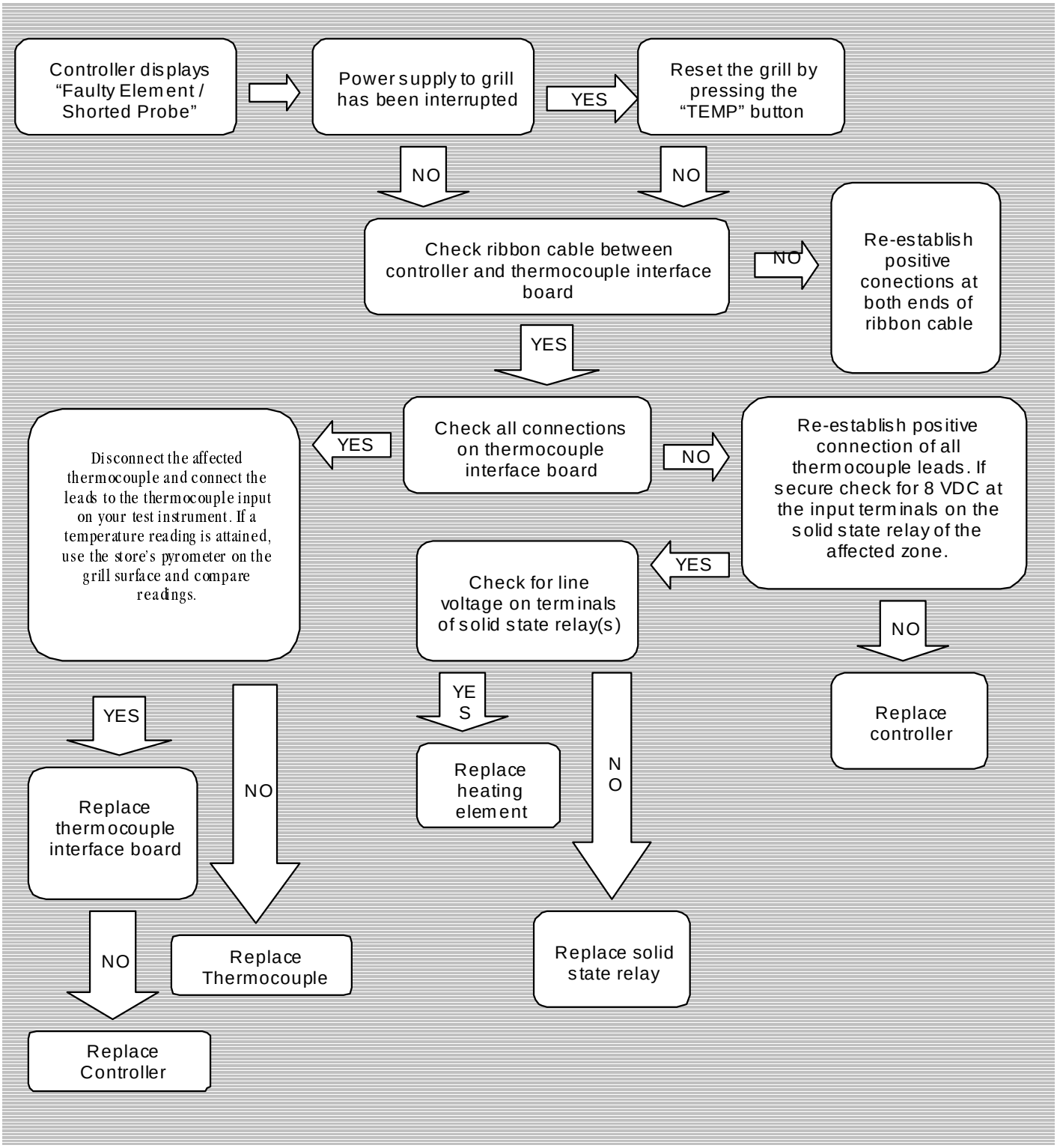


TROUBLESHOOTING

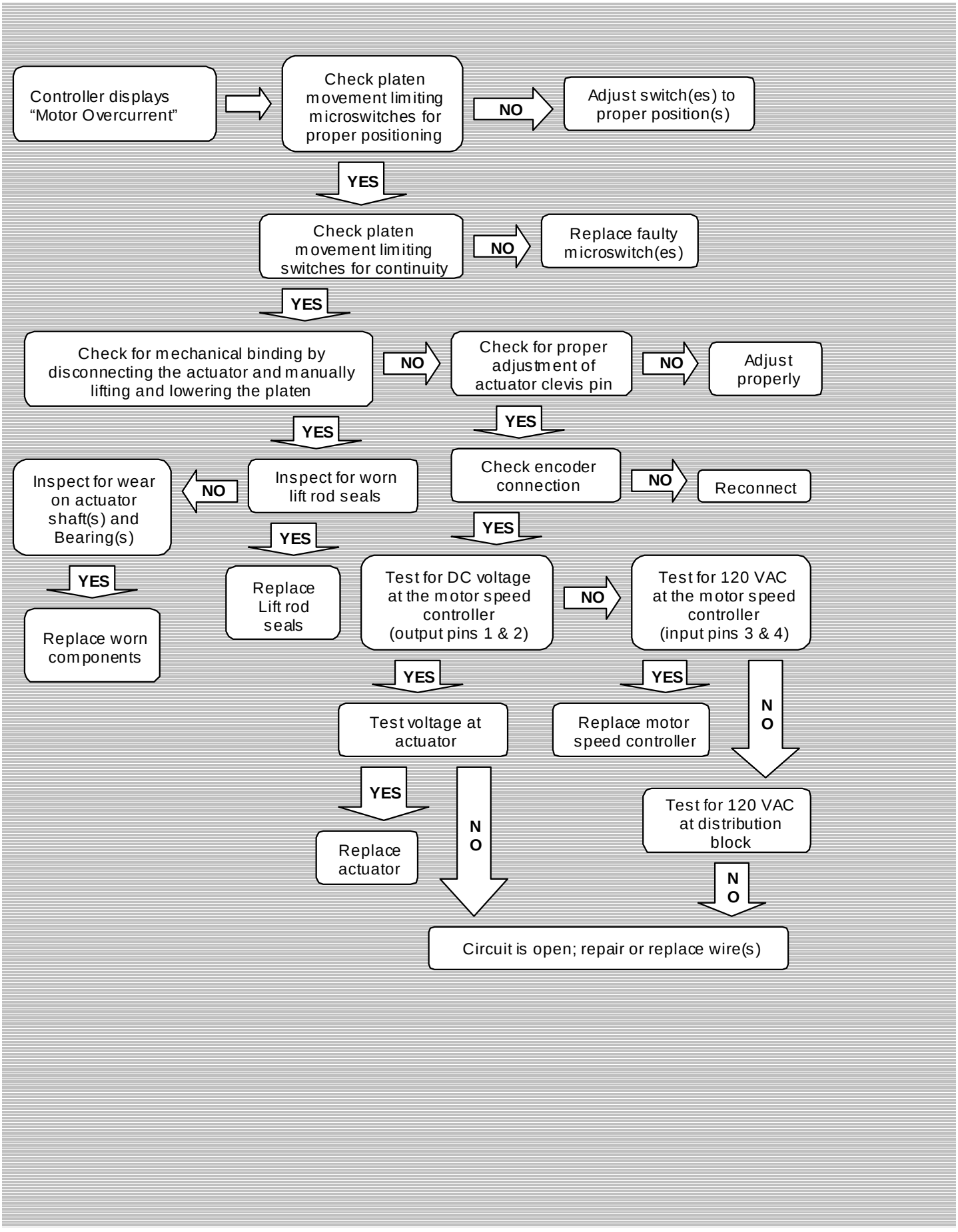

Controller displays "TOO HOT" then returns to normal operations
Current product selected requires a lower temperature than the previous product
YES
Allow grill temperature to fall to selected menu item
NO
One or more heat zones have exceeded the maximium temperature window
Check for proper seating of thermocouple(s)
YES
Check element for loose connection at terminals
NO
Reseat thermocouple
NO
Replace EProm Chip
YES
Tighten element connection(s)
Replace thermocouple


Controller displays "EPROM CORRUPT"
Was new Eprom chip or new version Eprom recently installed?
YES
Turn Master power switch "OFF" wait 3 seconds, turn Master power switch "ON" to reset
NO
Replace failed Eprom chip

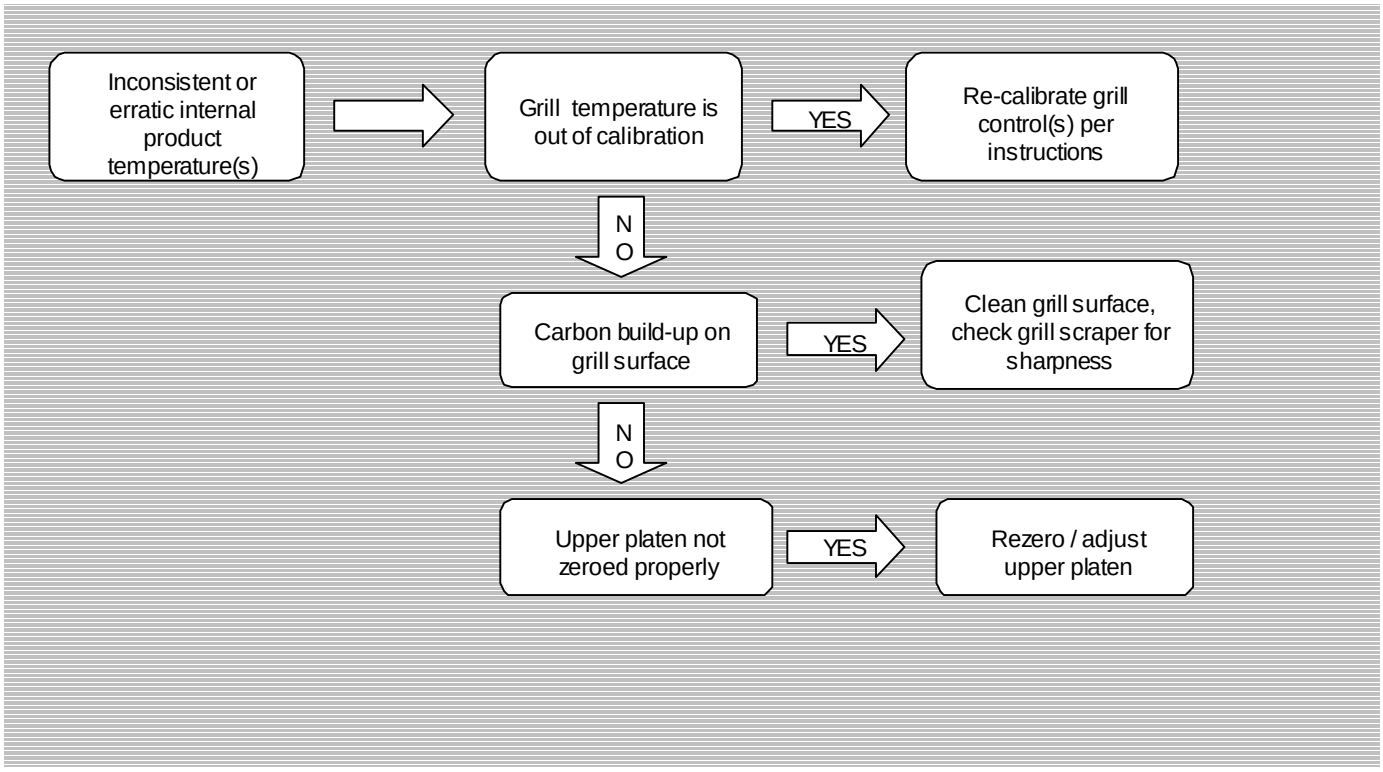
TROUBLESHOOTING

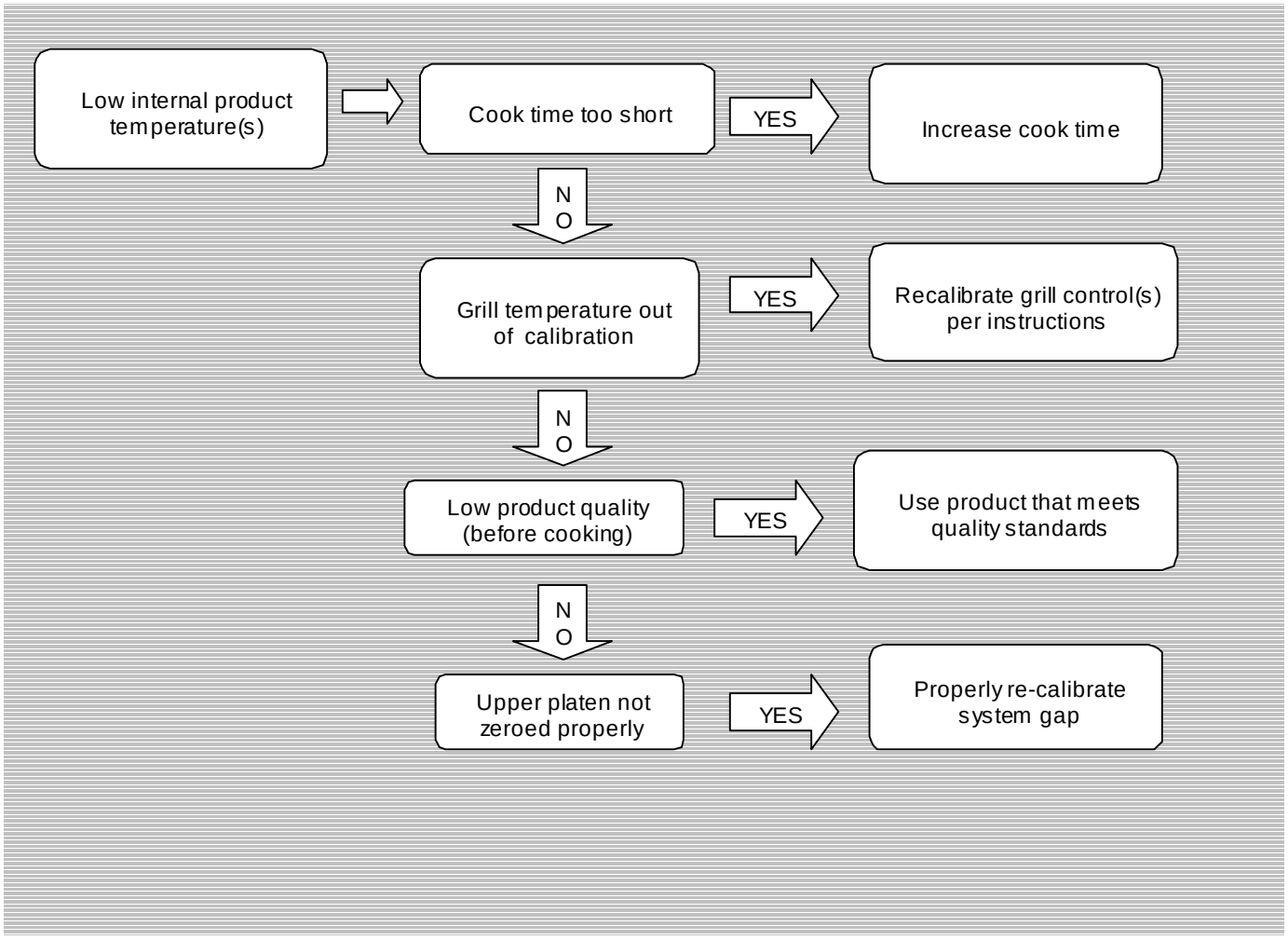

Controller displays "Faulty Element / Shorted Probe"
Power supply to grill has been interrupted
YES
Reset the grill by pressing the "TEMP" button
NO
NO
Check ribbon cable between controller and thermocouple interface board
NO
Re-establish positive conections at both ends of ribbon cable
YES
Disconnect the affected thermocouple and connect the leads to the thermocouple input on your test instrument. If a temperature reading is attained, use the store's pyrometer on the grill surface and compare readings.
YES
Check all connections on thermocouple interface board
NO
Re-establish positive connection of all thermocouple leads. If secure check for 8 VDC at the input terminals on the solid state relay of the affected zone.
YES
Check for line voltage on terminals of solid state relay(s)
NO
Replace controller
YES
Replace heating element
NO
Replace solid state relay
YES
Replace thermocouple interface board
NO
Replace Thermocouple
NO
Replace Controller

TROUBLESHOOTING

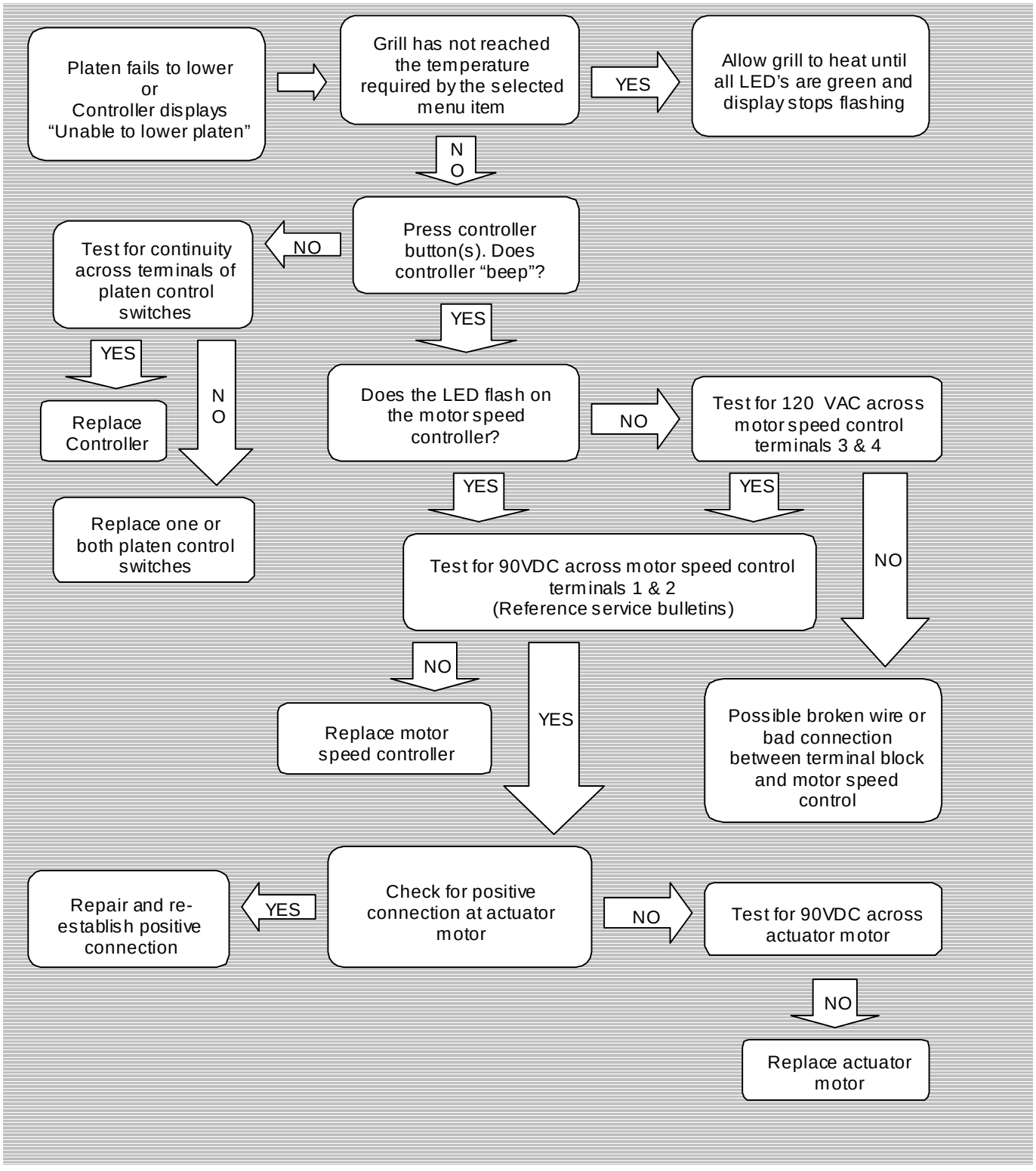


TROUBLESHOOTING

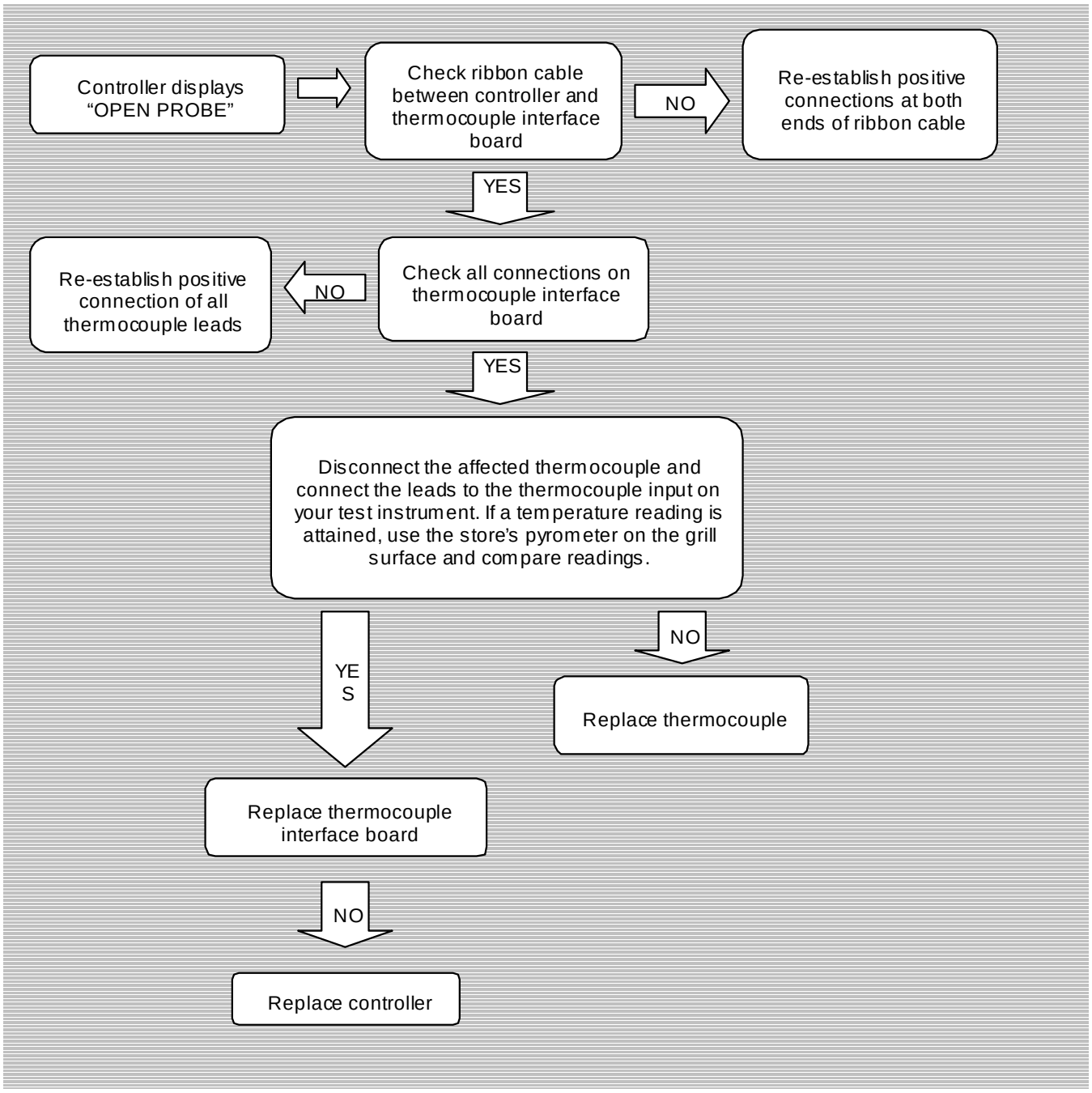




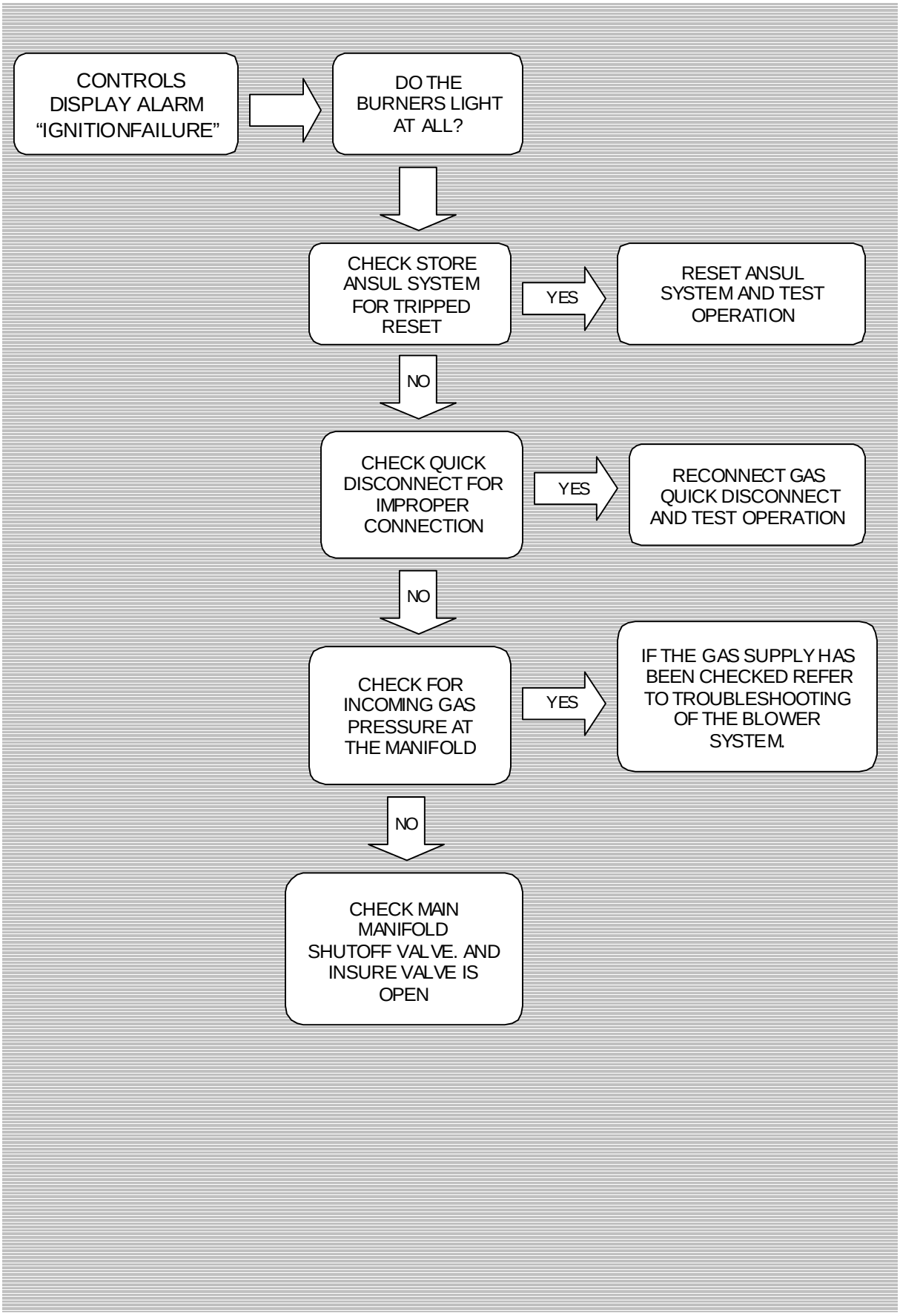
TROUBLESHOOTING


Platen fails to lower
or
Controller displays
“Unable to lower platen”
Grill has not reached the temperature required by the selected menu item
YES
Allow grill to heat until all LED’s are green and display stops flashing
NO
Press controller button(s). Does controller “beep”?
NO
Test for continuity across terminals of platen control switches
YES
YES
Replace Controller
NO
Replace one or both platen control switches
YES
Does the LED flash on the motor speed controller?
NO
Test for 120 VAC across motor speed control terminals 3 & 4
YES
YES
NO
Test for 90VDC across motor speed control terminals 1 & 2
(Reference service bulletins)
NO
Replace motor speed controller
YES
Possible broken wire or bad connection between terminal block and motor speed control
Repair and re-establish positive connection
YES
Check for positive connection at actuator motor
NO
Test for 90VDC across actuator motor
NO
Replace actuator motor

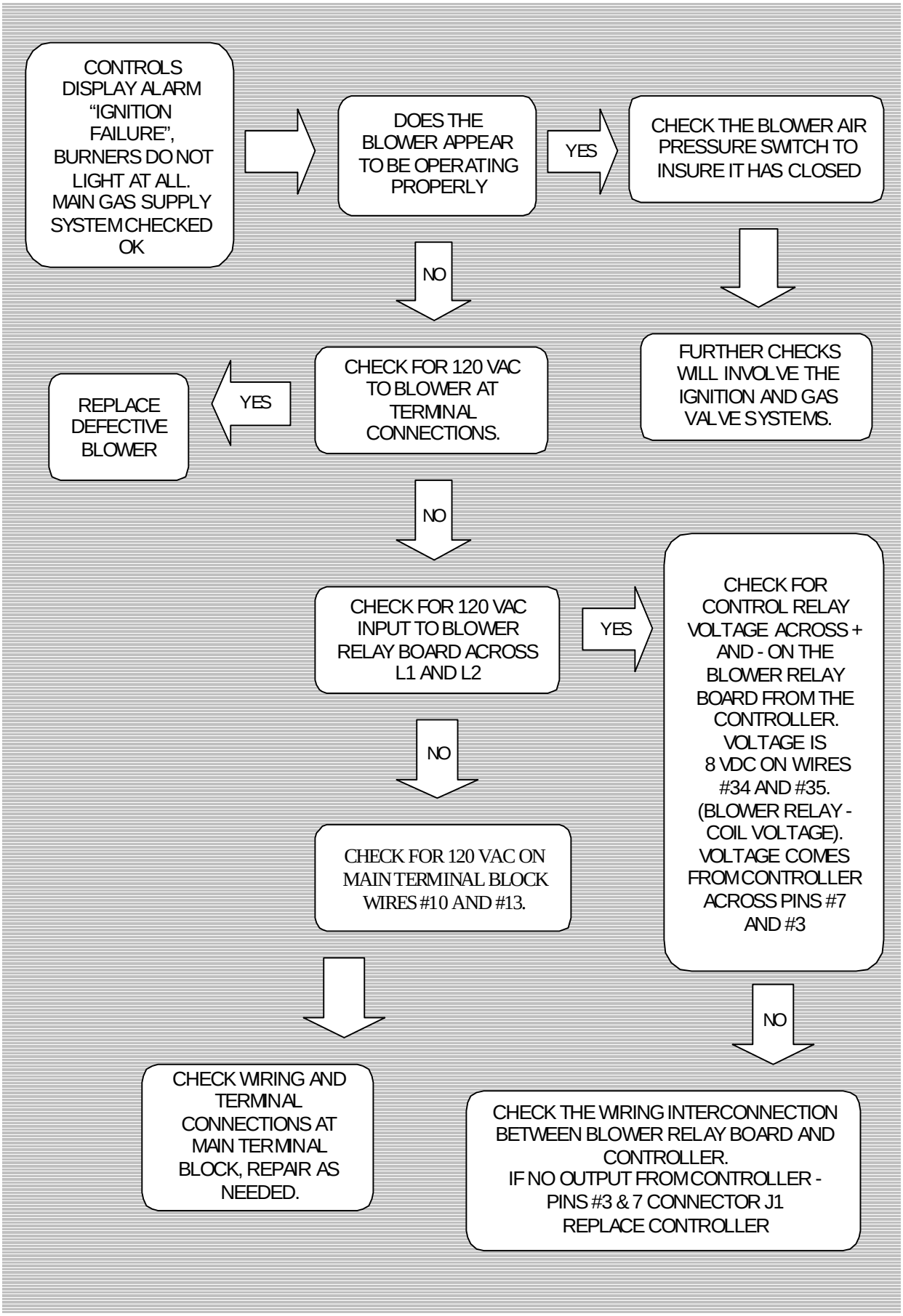
TROUBLESHOOTING


Controller displays "OPEN PROBE"
Check ribbon cable between controller and thermocouple interface board
NO
Re-establish positive connections at both ends of ribbon cable
YES
Re-establish positive connection of all thermocouple leads
NO
Check all connections on thermocouple interface board
YES
Disconnect the affected thermocouple and connect the leads to the thermocouple input on your test instrument. If a temperature reading is attained, use the store's pyrometer on the grill surface and compare readings.
NO
Replace thermocouple
YE S
Replace thermocouple interface board
NO
Replace controller

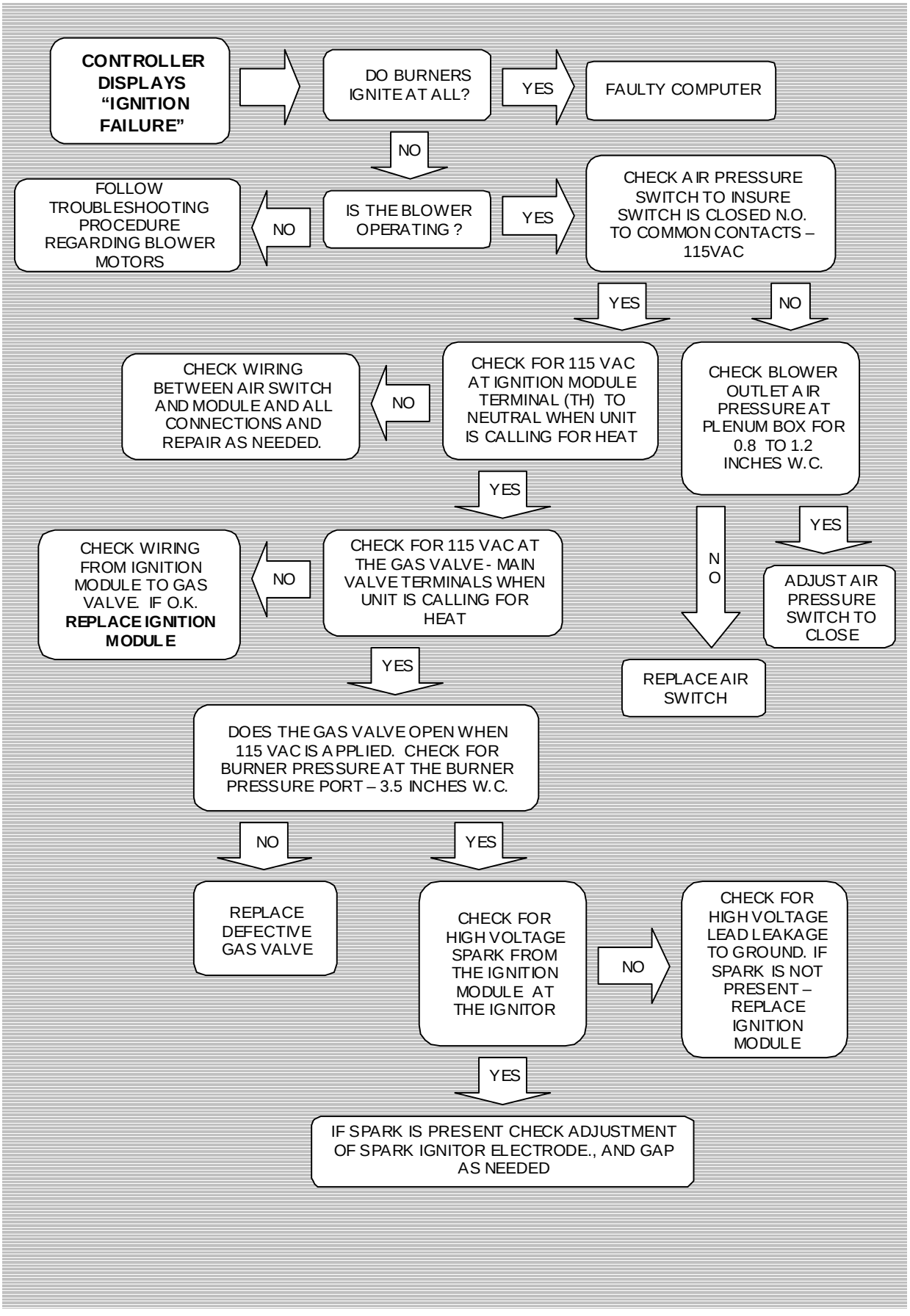
IGNITION TROUBLESHOOTING


CONTROLS DISPLAY ALARM "IGNITIONFAILURE"
DO THE BURNERS LIGHT AT ALL?
CHECK STORE ANSUL SYSTEM FOR TRIPPED RESET
YES
RESET ANSUL SYSTEM AND TEST OPERATION
NO
CHECK QUICK DISCONNECT FOR IMPROPER CONNECTION
YES
RECONNECT GAS QUICK DISCONNECT AND TEST OPERATION
NO
CHECK FOR INCOMING GAS PRESSURE AT THE MANIFOLD
YES
IF THE GAS SUPPLY HAS BEEN CHECKED REFER TO TROUBLESHOOTING OF THE BLOWER SYSTEM.
NO
CHECK MAIN MANIFOLD SHUTOFF VALVE. AND INSURE VALVE IS OPEN

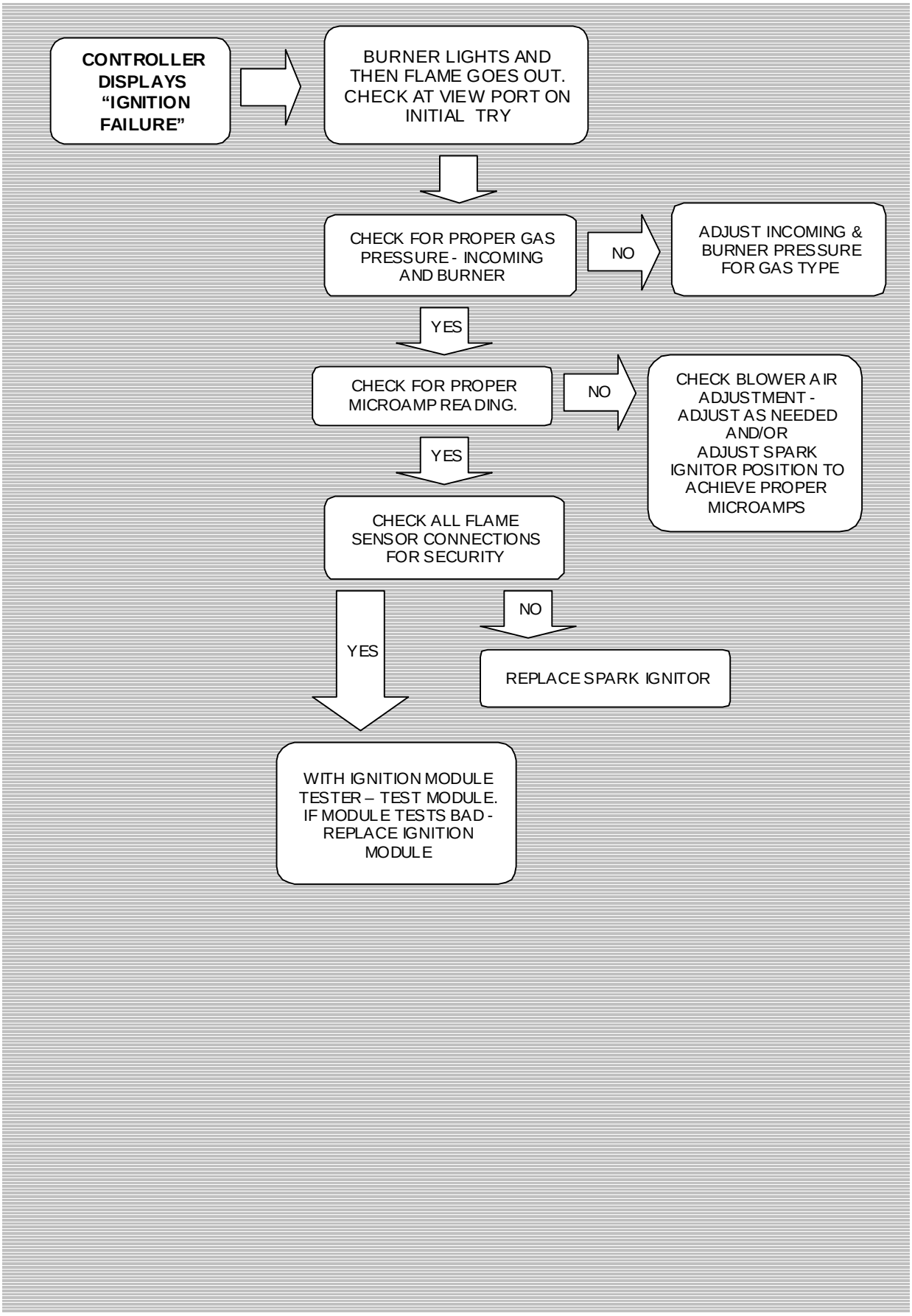
IGNITION TROUBLESHOOTING


CONTROLS DISPLAY ALARM "IGNITION FAILURE", BURNERS DO NOT LIGHT AT ALL. MAIN GAS SUPPLY SYSTEM CHECKED OK
DOES THE BLOWER APPEAR TO BE OPERATING PROPERLY
YES
CHECK THE BLOWER AIR PRESSURE SWITCH TO INSURE IT HAS CLOSED
NO
FURTHER CHECKS WILL INVOLVE THE IGNITION AND GAS VALVE SYSTEMS.
CHECK FOR 120 VAC TO BLOWER AT TERMINAL CONNECTIONS.
YES
REPLACE DEFECTIVE BLOWER
NO
CHECK FOR 120 VAC INPUT TO BLOWER RELAY BOARD ACROSS L1 AND L2
YES
CHECK FOR CONTROL RELAY VOLTAGE ACROSS + AND - ON THE BLOWER RELAY BOARD FROM THE CONTROLLER. VOLTAGE IS 8 VDC ON WIRES #34 AND #35. (BLOWER RELAY - COIL VOLTAGE). VOLTAGE COMES FROM CONTROLLER ACROSS PINS #7 AND #3
NO
CHECK FOR 120 VAC ON MAIN TERMINAL BLOCK WIRES #10 AND #13.
CHECK WIRING AND TERMINAL CONNECTIONS AT MAIN TERMINAL BLOCK, REPAIR AS NEEDED.
CHECK THE WIRING INTERCONNECTION BETWEEN BLOWER RELAY BOARD AND CONTROLLER.
IF NO OUTPUT FROM CONTROLLER - PINS #3 & 7 CONNECTOR J1
REPLACE CONTROLLER

IGNITION TROUBLESHOOTING


CONTROLLER DISPLAYS "IGNITION FAILURE"
DO BURNERS IGNITE AT ALL?
YES
FAULTY COMPUTER
NO
IS THE BLOWER OPERATING ?
NO
FOLLOW TROUBLESHOOTING PROCEDURE REGARDING BLOWER MOTORS
YES
CHECK AIR PRESSURE SWITCH TO INSURE SWITCH IS CLOSED N.O. TO COMMON CONTACTS – 115VAC
YES
NO
CHECK FOR 115 VAC AT IGNITION MODULE TERMINAL (TH) TO NEUTRAL WHEN UNIT IS CALLING FOR HEAT
NO
CHECK WIRING BETWEEN AIR SWITCH AND MODULE AND ALL CONNECTIONS AND REPAIR AS NEEDED.
CHECK BLOWER OUTLET AIR PRESSURE AT PLENUM BOX FOR 0.8 TO 1.2 INCHES W.C.
YES
NO
YES
ADJUST AIR PRESSURE SWITCH TO CLOSE
CHECK FOR 115 VAC AT THE GAS VALVE - MAIN VALVE TERMINALS WHEN UNIT IS CALLING FOR HEAT
NO
CHECK WIRING FROM IGNITION MODULE TO GAS VALVE. IF O.K. REPLACE IGNITION MODULE
REPLACE AIR SWITCH
YES
DOES THE GAS VALVE OPEN WHEN 115 VAC IS APPLIED. CHECK FOR BURNER PRESSURE AT THE BURNER PRESSURE PORT – 3.5 INCHES W.C.
NO
YES
REPLACE DEFECTIVE GAS VALVE
CHECK FOR HIGH VOLTAGE SPARK FROM THE IGNITION MODULE AT THE IGNITOR
NO
CHECK FOR HIGH VOLTAGE LEAD LEAKAGE TO GROUND. IF SPARK IS NOT PRESENT – REPLACE IGNITION MODULE
YES
IF SPARK IS PRESENT CHECK ADJUSTMENT OF SPARK IGNITOR ELECTRODE., AND GAP AS NEEDED

IGNITION TROUBLESHOOTING

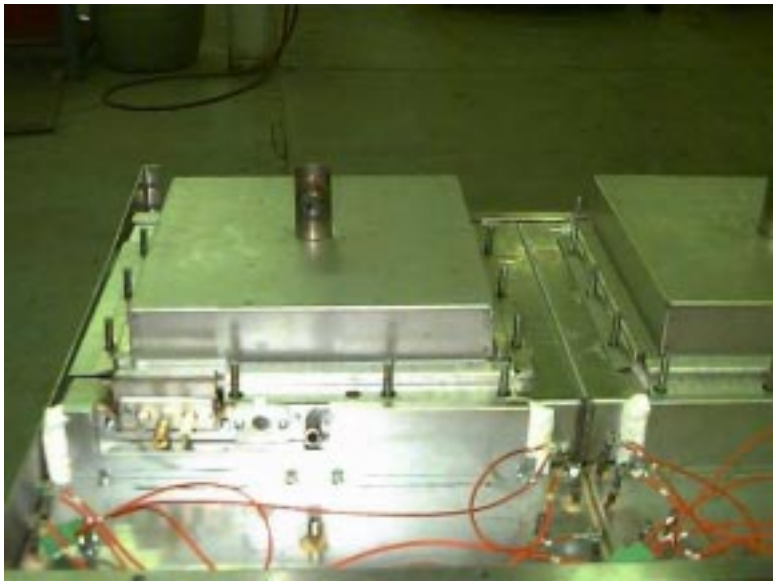

CONTROLLER DISPLAYS "IGNITION FAILURE"
BURNER LIGHTS AND THEN FLAME GOES OUT. CHECK AT VIEW PORT ON INITIAL TRY
CHECK FOR PROPER GAS PRESSURE - INCOMING AND BURNER
NO
ADJUST INCOMING & BURNER PRESSURE FOR GAS TYPE
YES
CHECK FOR PROPER MICROAMP READING.
NO
CHECK BLOWER AIR ADJUSTMENT - ADJUST AS NEEDED AND/OR ADJUST SPARK IGNITOR POSITION TO ACHIEVE PROPER MICROAMPS
YES
CHECK ALL FLAME SENSOR CONNECTIONS FOR SECURITY
NO
YES
REPLACE SPARK IGNITOR
WITH IGNITION MODULE TESTER – TEST MODULE. IF MODULE TESTS BAD - REPLACE IGNITION MODULE

NOTES

REPLACEMENT OF PARTS

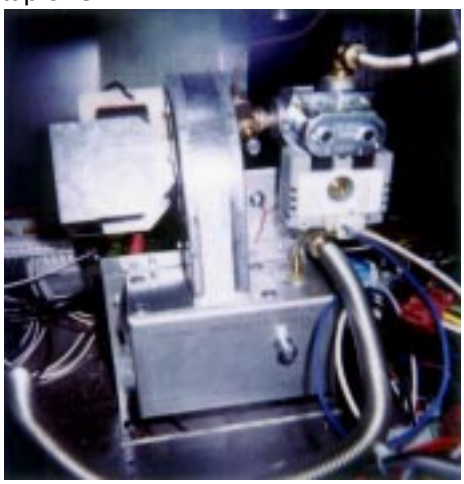
The following section contains instructions and diagrams to replace the parts pertinent to the gas heated portion of this grill.

Replacement of main burner



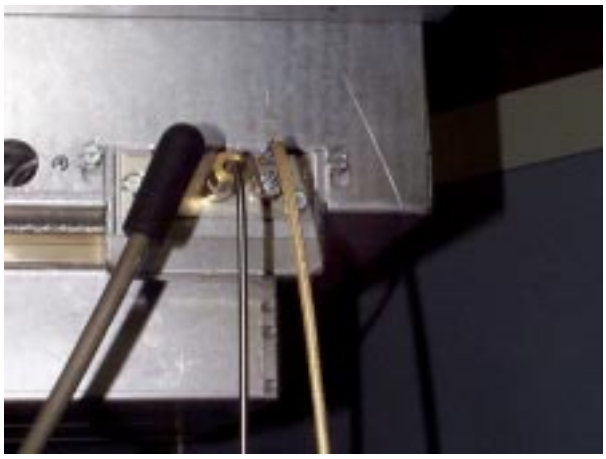
1. Isolate the grill from the gas and electrical supply and remove the front and side panels.
2. Remove the large heat shields to gain access to the burner.
3. Disconnect the blower to burner air hose at the inlet venturi.
4. Disconnect the gas supply hose at the inlet venturi.
5. Disconnect the gas supply pipe to the igniter.
6. Disconnect the ignition and flame sensing leads to the igniter.
7. Remove the igniter (two screws).
8. Remove the nuts on the retaining studs and while holding the burner remove the four retaining brackets (see photo), and remove the burner.
9. Fit the new burner and secure in place with the retaining brackets.
10. Replace the parts in the sequence 6 through 1.
11. Test all joints for gas soundness.
12. Verify the correct function of the grill, especially with reference to “Initial Setup of Grill”.

Replacement of the Blower



1. Isolate the grill from the gas and electrical supply and remove the front panels.
2. Disconnect the two wires connected to the blower motor.
3. Remove the four screws that hold the blower to the combustion air box (see photo).
4. Secure the new blower to the combustion air box.
5. Connect the two wires to the blower motor.
6. Reconnect to the gas and electrical supply and test the grill.
7. Refit the front panels.

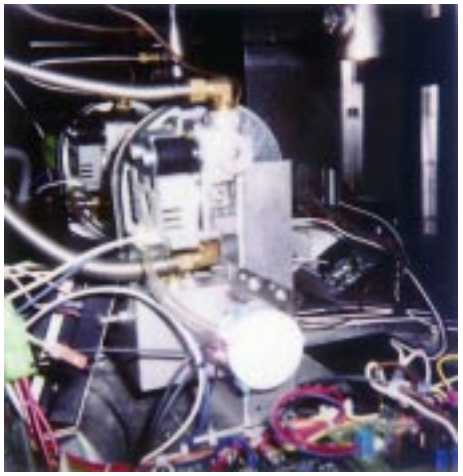
Replacement of the Igniter



1. Isolate the grill from the gas and electrical supply and remove the front panels.
2. Disconnect the gas inlet pipe to the igniter.
3. Disconnect the ignition and flame sensing leads to the igniter.
4. Remove the two securing screws and remove the igniter and gasket (see photo).
5. Secure the new igniter with the two screws, ensuring that the new gasket is aligned with the igniter.
6. Reconnect the ignition and flame sensing leads.
7. Reconnect the gas inlet pipe to the igniter.
8. Reconnect the gas and electrical supply.
9. Test all joints for gas soundness and test the grill.
10. Replace the front panels.

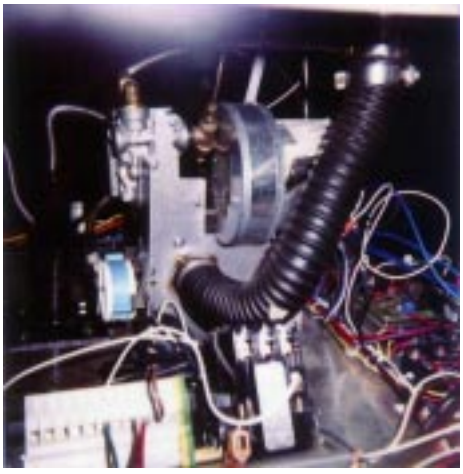
Replacement of the Gas Valve

1. Isolate the grill from the gas and electrical supply and remove the front panels.
2. Remove the gas inlet and outlet pipes to the fittings mounted on the valve (see photos).
3. Remove the electrical supply connector plugged into the valve.
4. Remove the two screws holding the valve to the mounting bracket.
5. Remove the valve and remove the brass fittings.
6. Fit the brass fittings to the new gas valve sealing, the threads with an approved sealing compound.
7. Secure the gas valve to the mounting bracket with the two screws.
8. Reconnect the inlet and outlet pipes to brass fittings.
9. Plug in the electrical connector.
10. Reconnect the electrical and gas supply.
11. Test all joints for gas soundness and test the grill.
12. Replace the front panels



Replacement of the Air Switch

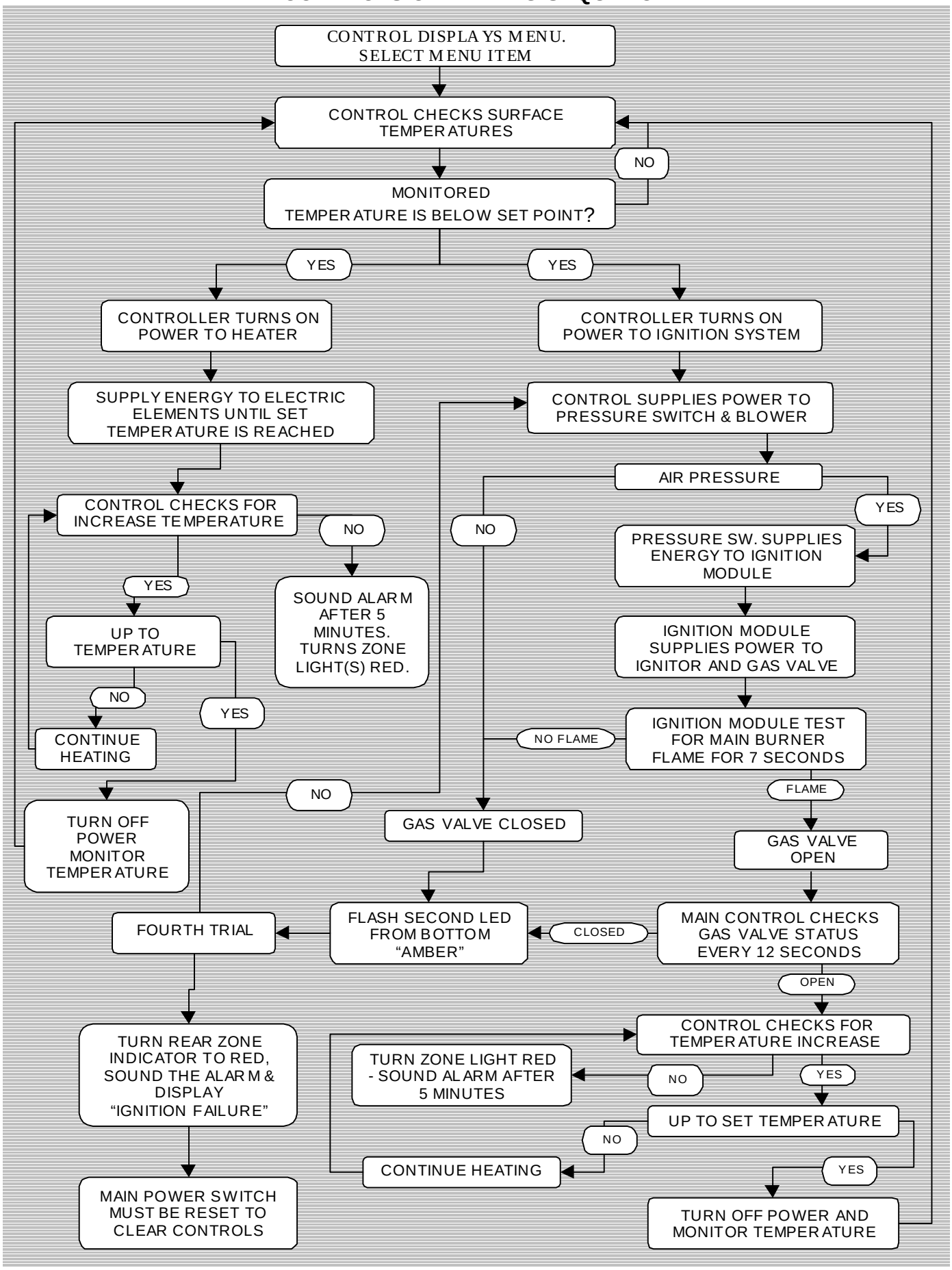
1. Isolate the grill from the gas and electrical supply and remove the front panels.
2. Remove the two wires connected to the air switch.
3. Remove the air sensing tube connected to the air switch.
4. Remove the two screws and remove the air switch (see photos).
5. Secure the air switch using the two screws.
6. Reconnect the air sensing tube.
7. Reconnect the two electrical wires to the air switch.
8. Reconnect the gas and electrical supply.
9. Test the grill.
10. Replace the front panels.



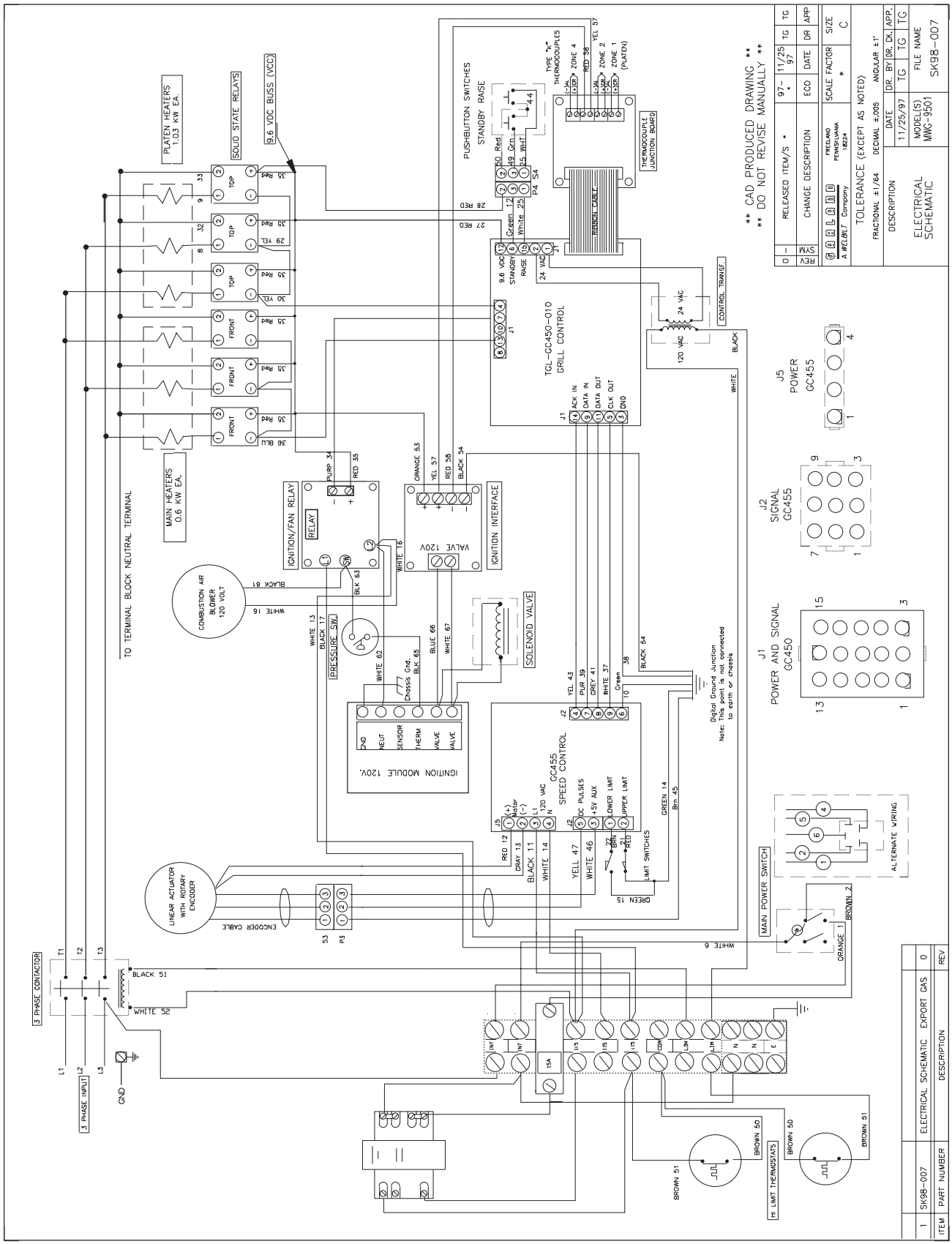
Replacement of the Ignition Module

1. Isolate the grill from the gas and electrical supply and remove the front panels.
2. Remove the ignition lead connected to the front of the ignition module (see photo).
3. Remove the electrical connections to the ignition module.
4. Remove the four screws securing the ignition module to the mounting bracket and remove the ignition module.
5. Secure the new ignition module using the four screws.
6. Reconnect the electrical connections according to the wiring diagram supplied with this manual.
7. Reconnect the ignition lead.
8. Reconnect the gas and electrical supply.
9. Test the grill.
10. Replace the front panels

CONTROLS OPERATING SEQUENCE

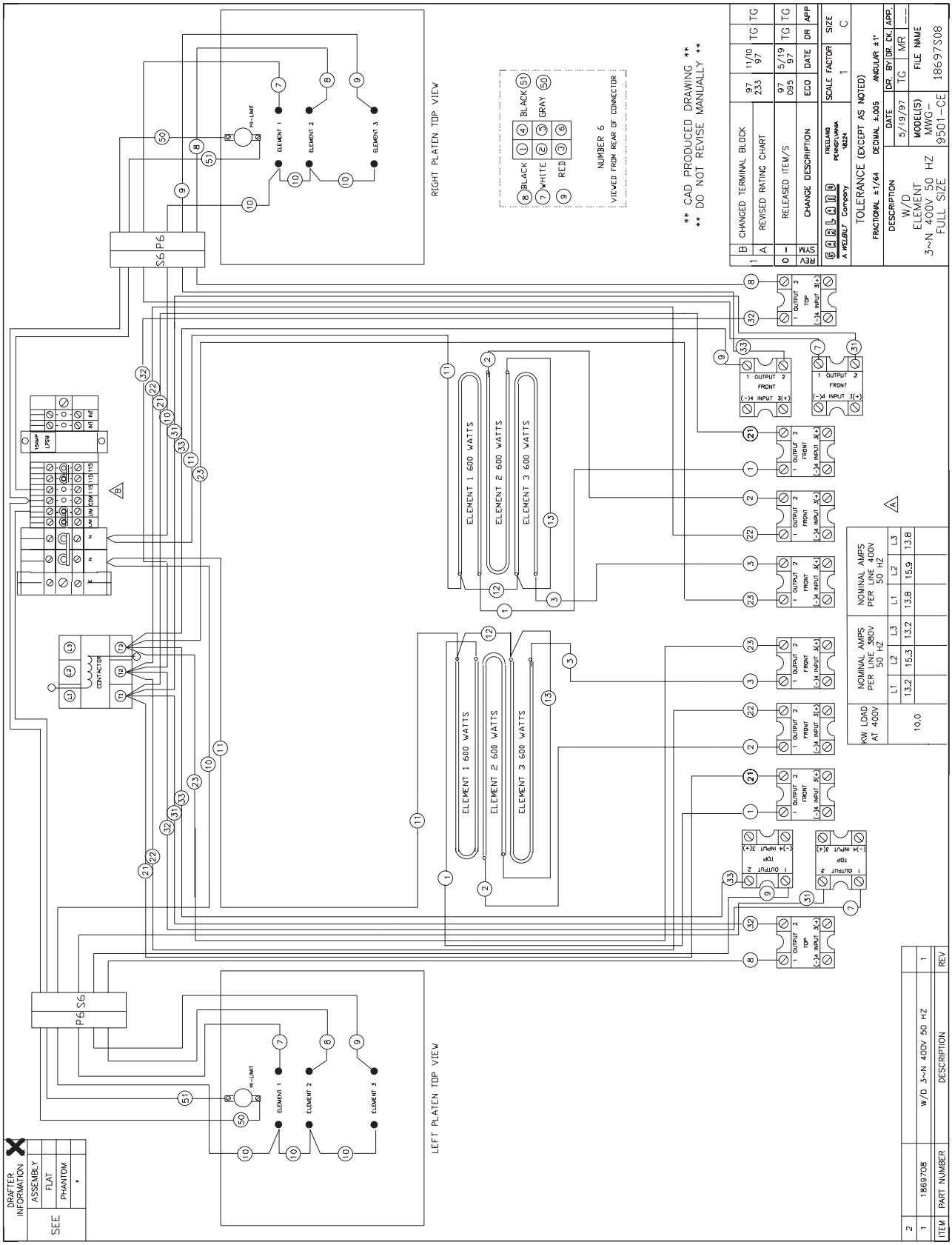

CONTROL DISPLAYS MENU. SELECT MENU ITEM
CONTROL CHECKS SURFACE TEMPERATURES
NO
MONITORED TEMPERATURE IS BELOW SET POINT?
YES
YES
CONTROLLER TURNS ON POWER TO HEATER
CONTROLLER TURNS ON POWER TO IGNITION SYSTEM
SUPPLY ENERGY TO ELECTRIC ELEMENTS UNTIL SET TEMPERATURE IS REACHED
CONTROL SUPPLIES POWER TO PRESSURE SWITCH & BLOWER
AIR PRESSURE
YES
NO
CONTROL CHECKS FOR INCREASE TEMPERATURE
NO
PRESSURE SW. SUPPLIES ENERGY TO IGNITION MODULE
YES
SOUND ALARM AFTER 5 MINUTES. TURNS ZONE LIGHT(S) RED.
UP TO TEMPERATURE
IGNITION MODULE SUPPLIES POWER TO IGNITOR AND GAS VALVE
NO
YES
CONTINUE HEATING
NO FLAME
IGNITION MODULE TEST FOR MAIN BURNER FLAME FOR 7 SECONDS
FLAME
NO
TURN OFF POWER MONITOR TEMPERATURE
GAS VALVE CLOSED
GAS VALVE OPEN
FOURTH TRIAL
FLASH SECOND LED FROM BOTTOM "AMBER"
CLOSED
MAIN CONTROL CHECKS GAS VALVE STATUS EVERY 12 SECONDS
OPEN
CONTROL CHECKS FOR TEMPERATURE INCREASE
TURN REAR ZONE INDICATOR TO RED, SOUND THE ALARM & DISPLAY "IGNITION FAILURE"
TURN ZONE LIGHT RED - SOUND ALARM AFTER 5 MINUTES
NO
YES
UP TO SET TEMPERATURE
NO
CONTINUE HEATING
YES
MAIN POWER SWITCH MUST BE RESET TO CLEAR CONTROLS
TURN OFF POWER AND MONITOR TEMPERATURE

ELECTRICAL SCHEMATICS

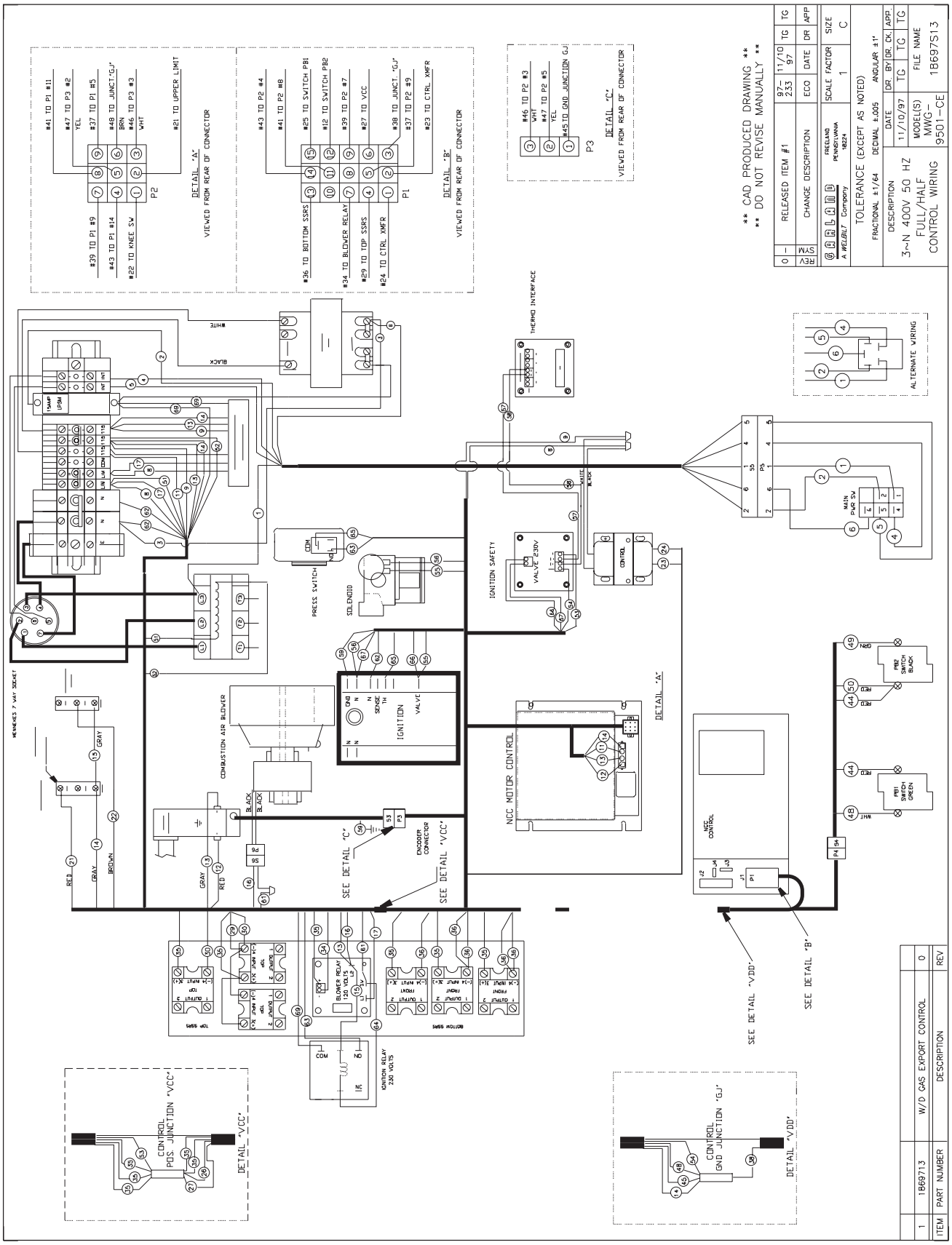


CE WIRING DIAGRAMS

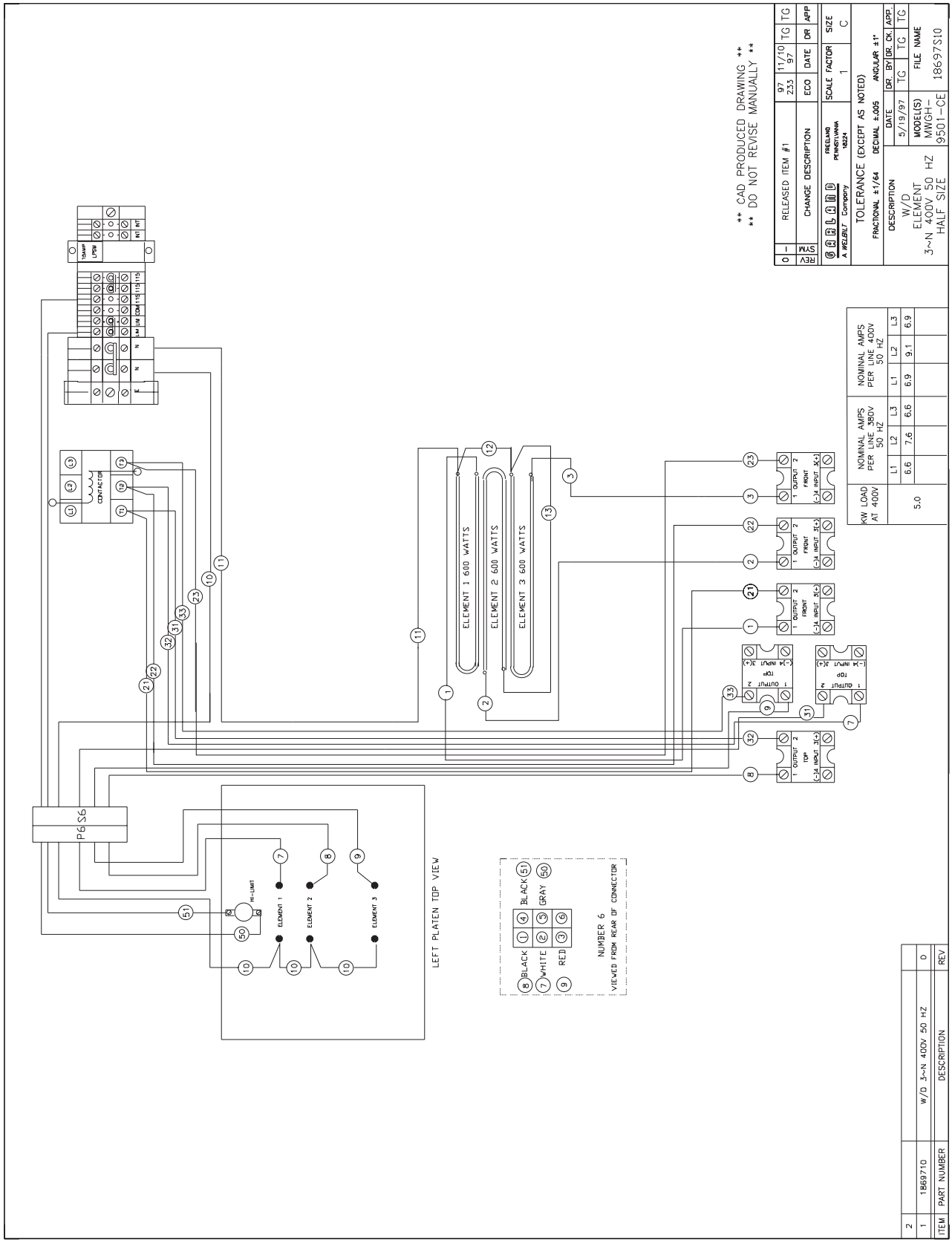
WIRING DIAGRAM FULL SIZE



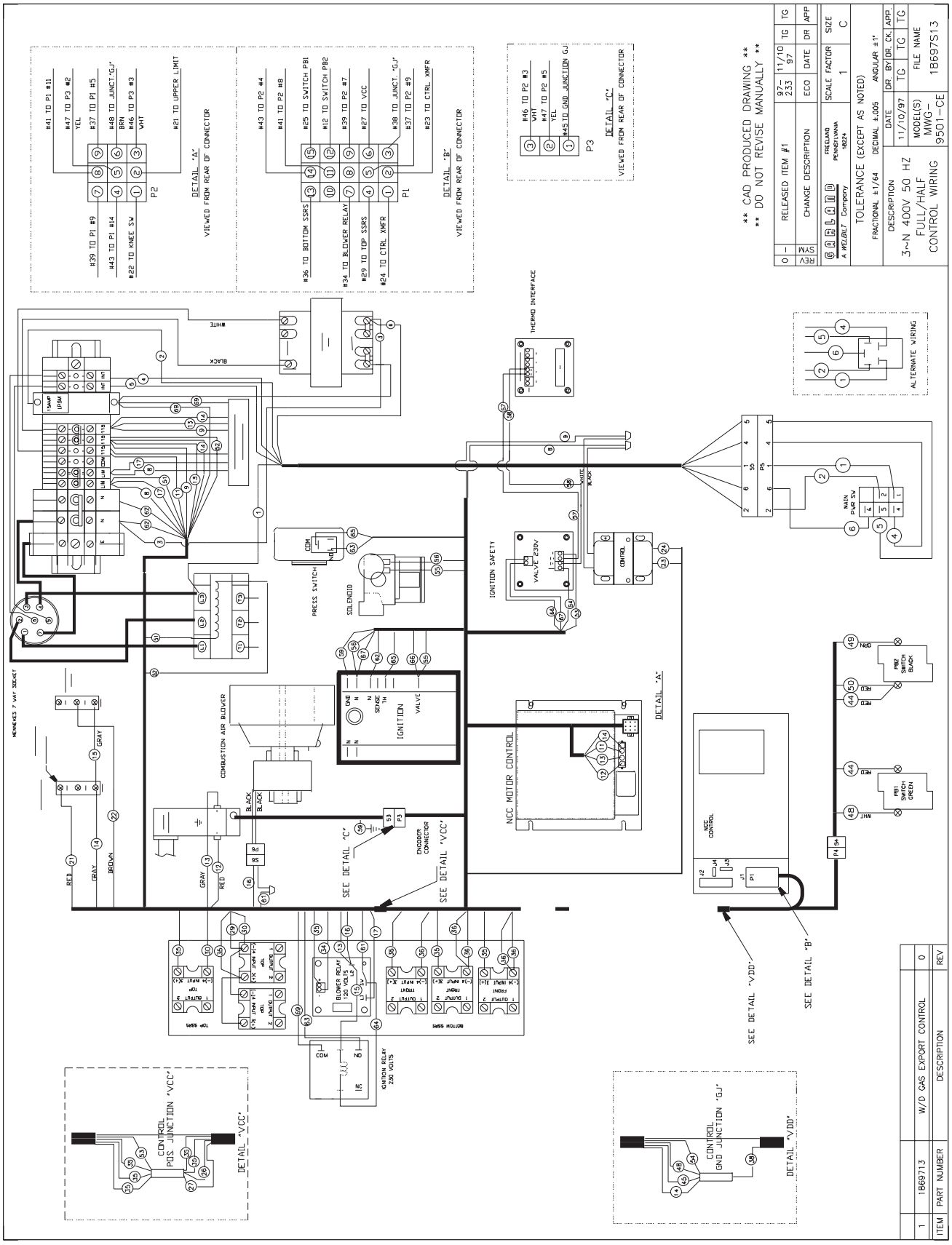
CONTROL WIRING DIAGRAM CE FULL SIZE



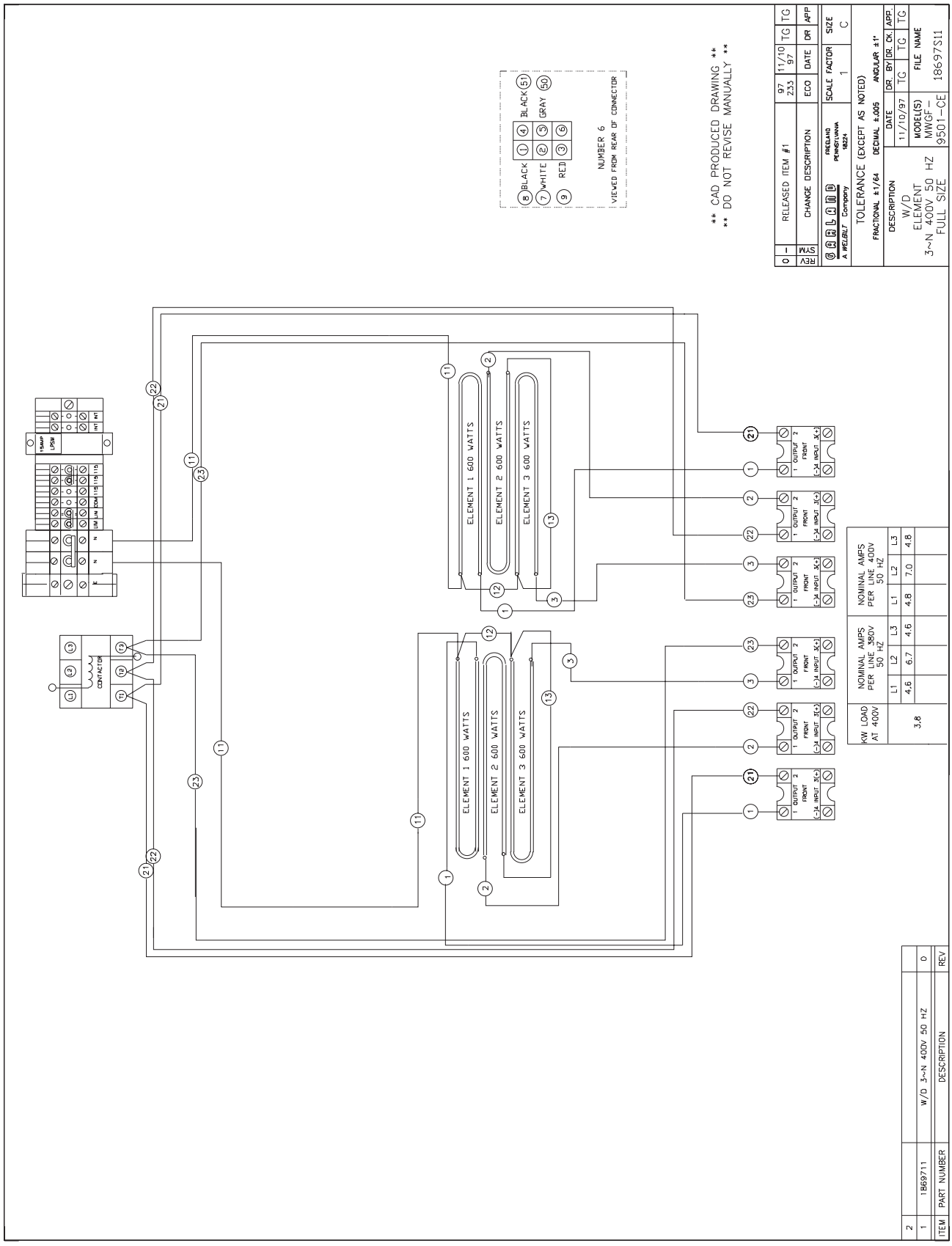
WIRING DIAGRAM CE HALF SIZE



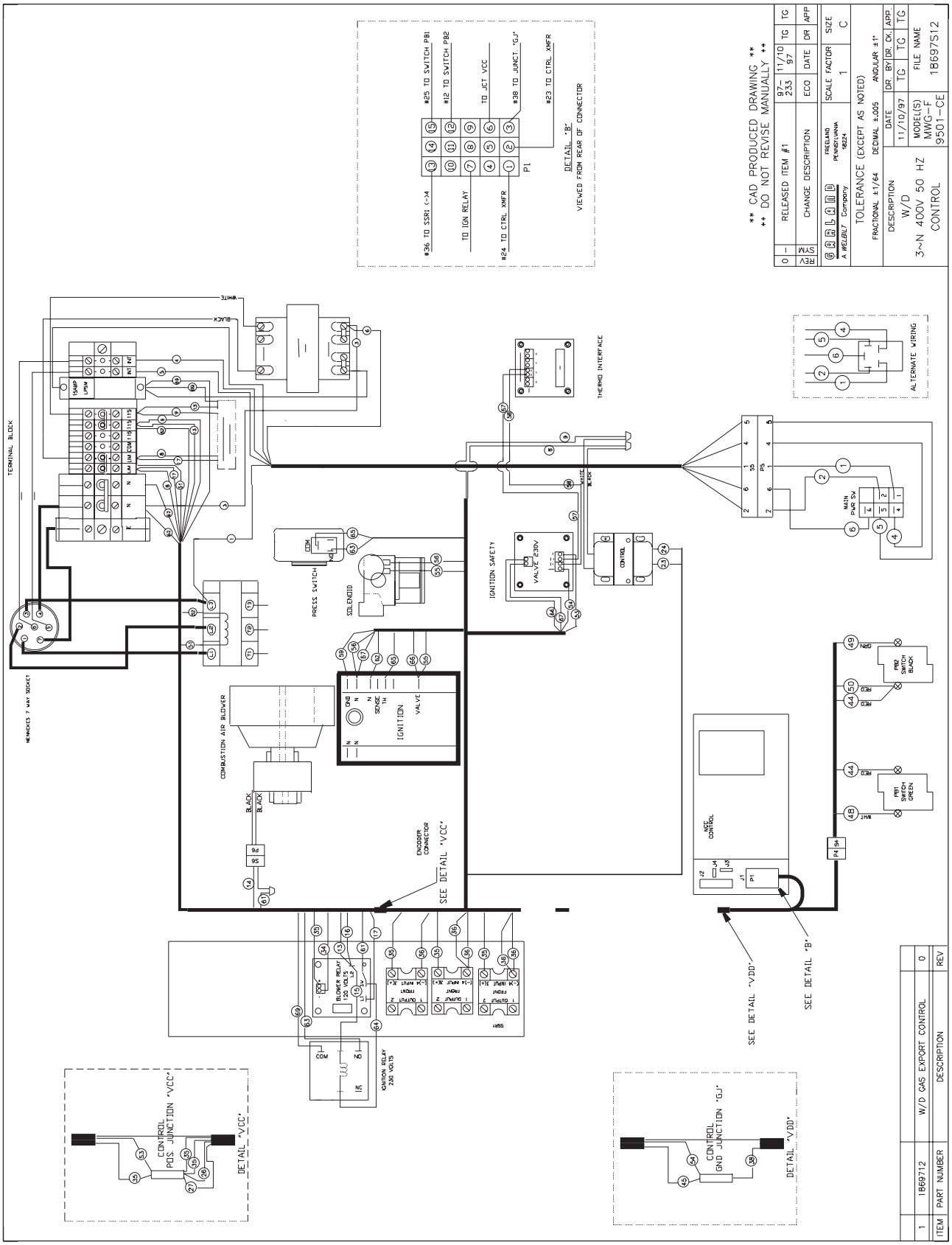
CONTROL WIRING DIAGRAM CE HALF SIZE



WIRING DIAGRAM CE FULL SIZE FLAT

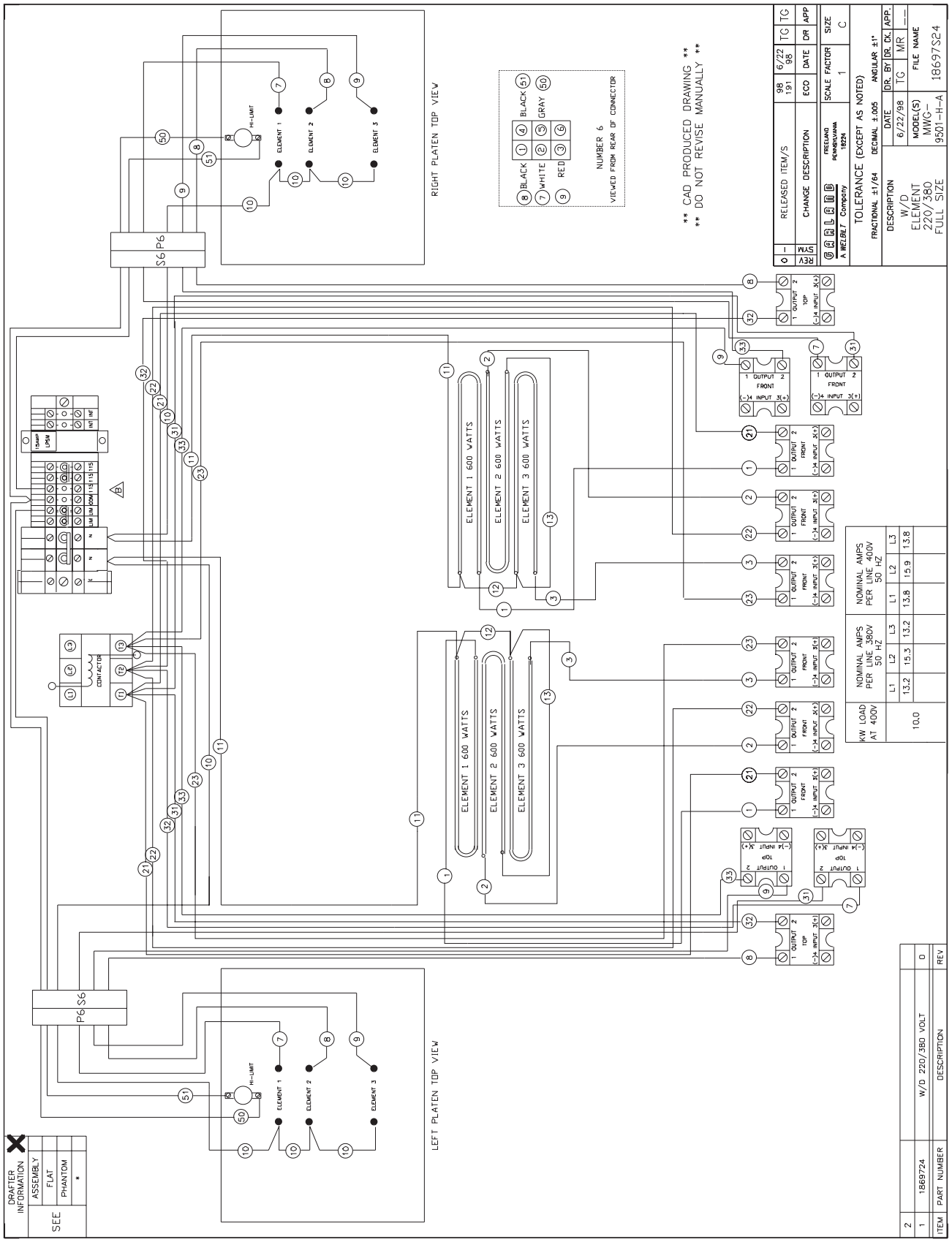

** CAD PRODUCED DRAWING **
** DO NOT REVISE MANUALLY **
8 BLACK
7 WHITE
9 RED
1 4 BLACK 51
2 5 GRAY 50
3 6
NUMBER 6
VIEWED FROM REAR OF CONNECTOR
ELEMENT 1 600 WATTS
ELEMENT 2 600 WATTS
ELEMENT 3 600 WATTS
CONTACTOR
1 OUTPUT 2 FRONT
(-)4 INPUT 3(+)
KW LOAD AT 400V
3.8
NOMINAL AMPS PER LINE 380V 50 HZ
L1 L2 L3
4.6 6.7 4.6
NOMINAL AMPS PER LINE 400V 50 HZ
L1 L2 L3
4.8 7.0 4.8
REV
0 – RELEASED ITEM #1 97 235 11/10 97 TG TG
CHANGE DESCRIPTION ECO DATE DR APP
GE APPLIANCES A MELBU Company
FINGLAND PENNSYLVANIA 18224
SCALE FACTOR 1
SIZE C
TOLERANCE (EXCEPT AS NOTED)
FRACTIONAL ±1/64 DECIMAL ±.005 ANGULAR ±1°
DESCRIPTION W/D ELEMENT 3~N 400V 50 HZ FULL SIZE
DATE DR BY DR. CK APP
11/10/97 TG TG TG
MODEL(S) MWGF– 9501–CE
FILE NAME 18697S11
2
1 1869711 W/D 3~N 400V 50 HZ 0
ITEM PART NUMBER DESCRIPTION REV

CONTROL WIRING DIAGRAM CE FULL SIZE FLAT

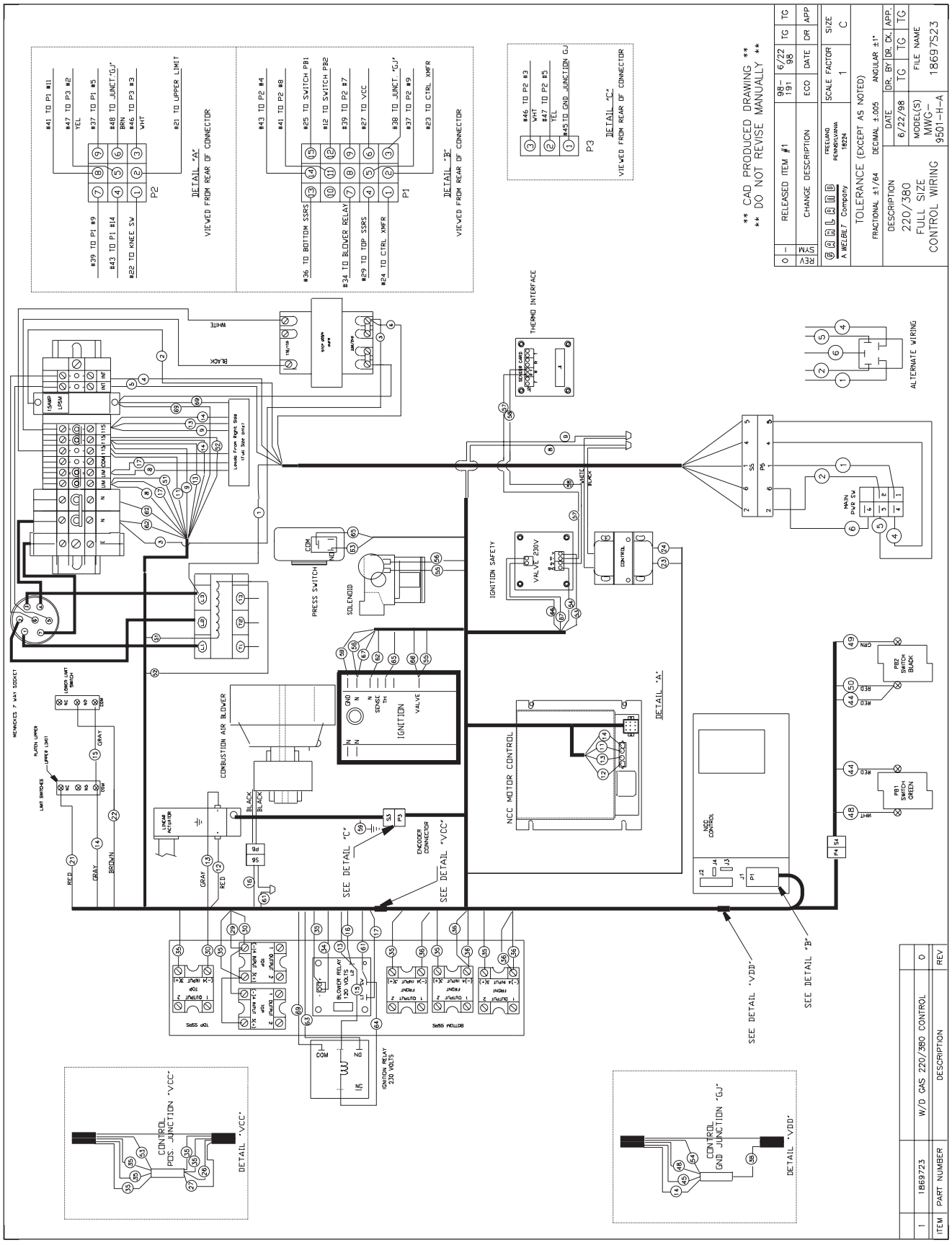


CE CONFIGURED WIRING DIAGRAMS

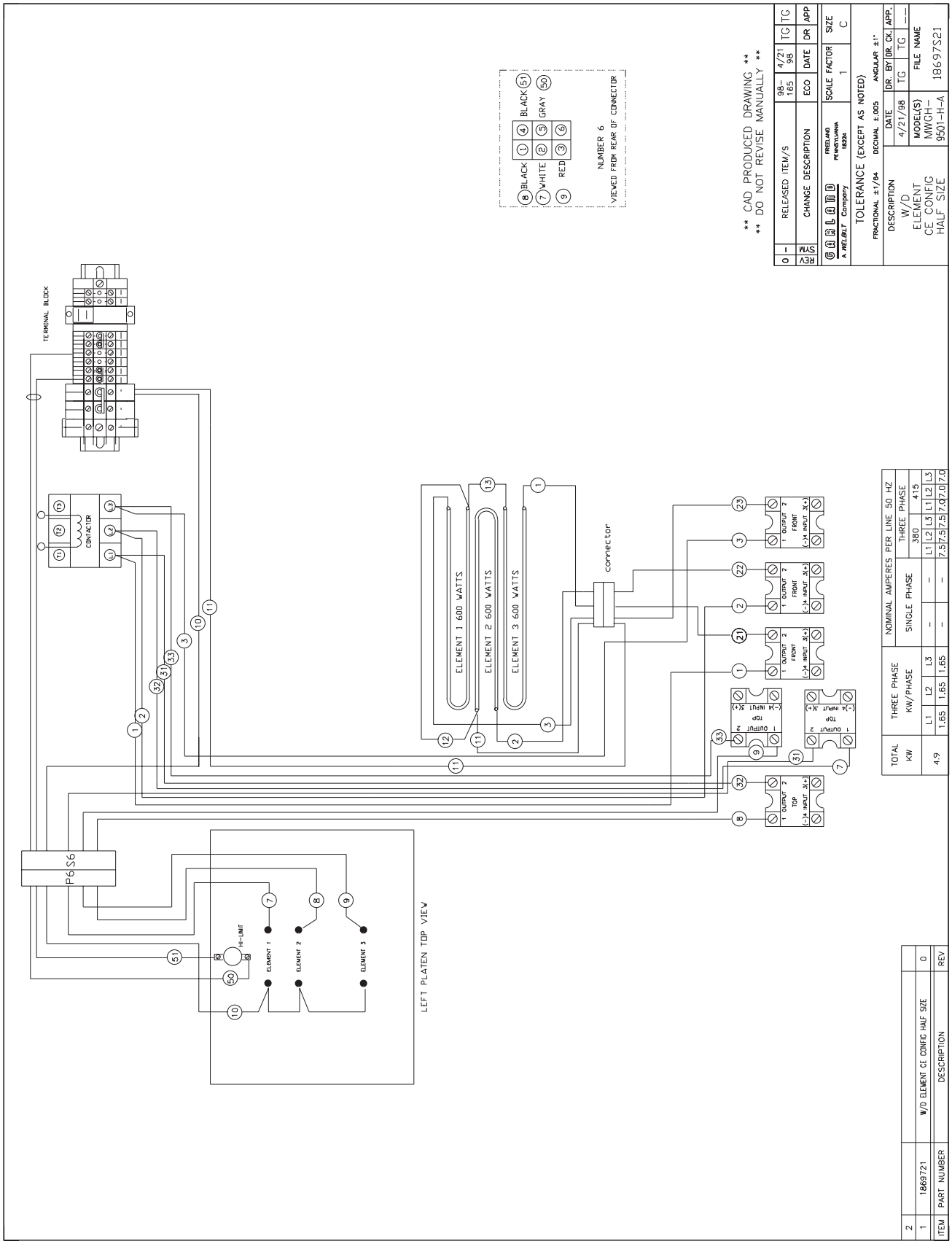
WIRING DIAGRAM CE CONFIGURED FULL SIZE



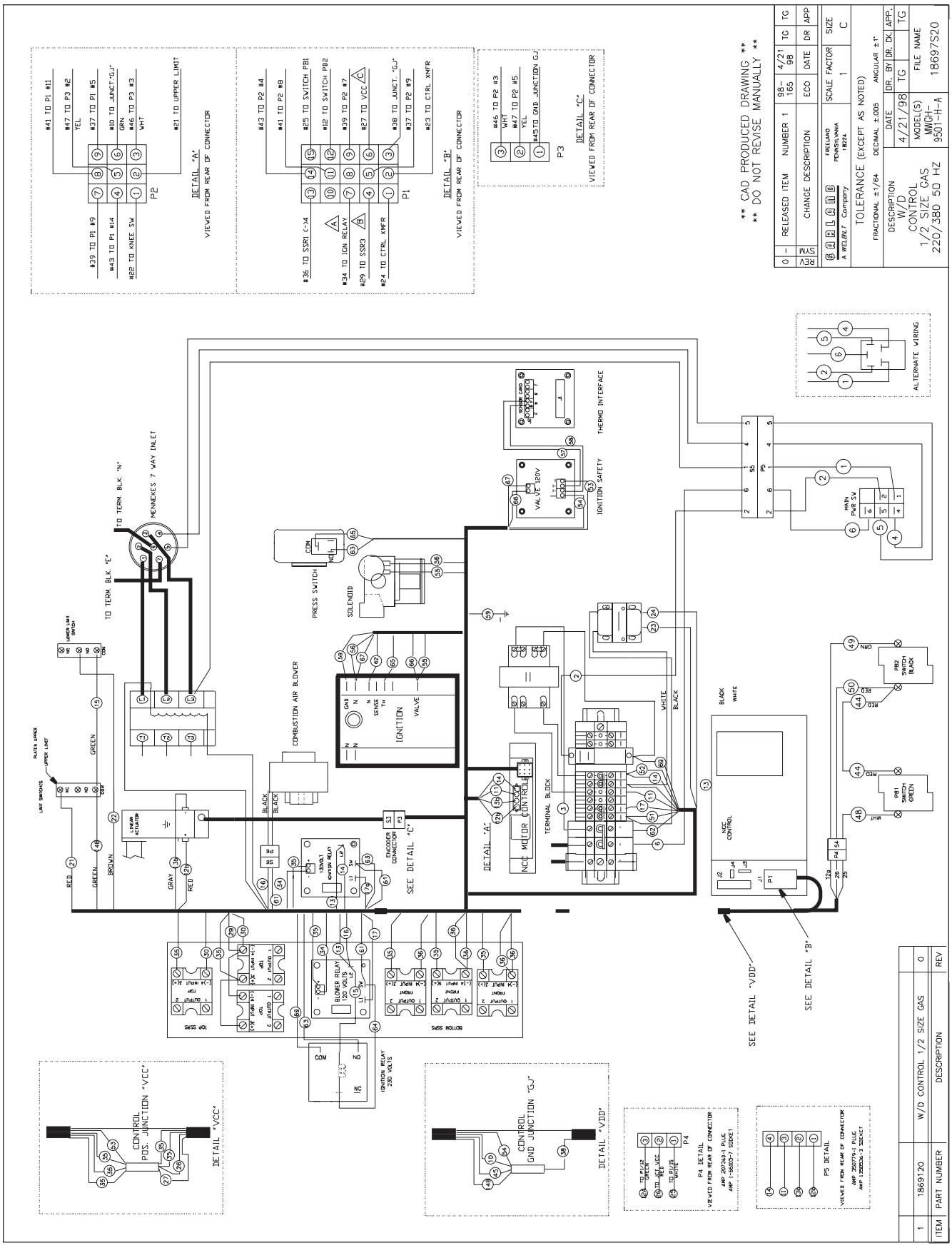
CONTROL WIRING CE CONFIGURED FULL SIZE



WIRING DIAGRAM CE CONFIGURED HALF SIZE



CONTROL WIRING DIAGRAM CE CONFIGURED HALF SIZE



TEMPERATURE CONVERSION CHART

The numbers in the body of the table give in degrees F the temperature indicated in degrees C at the top and side. For example, to convert 178°C to Fahrenheit scale, find the first two numbers, (**17**), in the column labeled "**Degrees C".** Proceed in a horizontal line to the column labeled "**8**," (the third number in 178), which shows 352°F as corresponding to 178°C.

To convert 352°F to Celsius scale, find 352°F in the Fahrenheit readings, then, in the column labeled "**Degrees C**," find the number which is on the same horizontal line, (**17**). Next, fill in the last number from the heading of the column in which 352°F was found, (**8**), resulting in 178°C, which is equivalent to 352°F.

Temperatures not included in the chart can be determined within +/- 1 degree, using these formulae:

?°C = .56 x (T°F - 32) Example: .56 x (352°F - 32) = 179.2°C
?°F = (1.8 x T°C) + 32 Example: (1.8 x 178°C) + 32 = 352.4°F

Degrees C	0	1	2	3	4	5	6	7	8	9
-2	-4°F	-6°F	-8°F	-9°F	-11°F	-13°F	-15°F	-17°F	-18°F	-20°F
-1	14°F	12°F	10°F	9°F	7°F	5°F	3°F	1°F	0°F	-2°F
-0	32°F	30°F	28°F	27°F	25°F	23°F	21°F	19°F	18°F	16°F
0	32°F	34°F	36°F	37°F	39°F	41°F	43°F	45°F	46°F	48°F
1	50°F	52°F	54°F	55°F	57°F	59°F	61°F	63°F	64°F	66°F
2	68°F	70°F	72°F	73°F	75°F	77°F	79°F	81°F	82°F	84°F
3	86°F	88°F	90°F	91°F	93°F	95°F	97°F	99°F	100°F	102°F
4	104°F	106°F	108°F	109°F	111°F	113°F	115°F	117°F	118°F	120°F
5	122°F	124°F	126°F	127°F	129°F	131°F	133°F	135°F	136°F	138°F
6	140°F	142°F	144°F	145°F	147°F	149°F	151°F	153°F	154°F	156°F
7	158°F	160°F	162°F	163°F	165°F	167°F	169°F	171°F	172°F	174°F
8	176°F	178°F	180°F	181°F	183°F	185°F	187°F	189°F	190°F	192°F
9	194°F	196°F	198°F	199°F	201°F	203°F	205°F	207°F	208°F	210°F
10	212°F	214°F	216°F	217°F	219°F	221°F	223°F	225°F	226°F	228°F
11	230°F	232°F	234°F	235°F	237°F	239°F	241°F	243°F	244°F	246°F
12	248°F	250°F	252°F	253°F	255°F	257°F	259°F	261°F	262°F	264°F
13	266°F	268°F	270°F	271°F	273°F	275°F	277°F	279°F	280°F	282°F
14	284°F	286°F	288°F	289°F	291°F	293°F	295°F	297°F	298°F	300°F
15	302°F	304°F	306°F	307°F	309°F	311°F	313°F	315°F	316°F	318°F
16	320°F	322°F	324°F	325°F	327°F	329°F	331°F	333°F	334°F	336°F
17	338°F	340°F	342°F	343°F	345°F	347°F	349°F	351°F	352°F	354°F
18	356°F	358°F	360°F	361°F	363°F	365°F	367°F	369°F	370°F	372°F
19	374°F	376°F	378°F	379°F	381°F	383°F	385°F	387°F	388°F	390°F
20	392°F	394°F	396°F	397°F	399°F	401°F	403°F	405°F	406°F	408°F
21	410°F	412°F	414°F	415°F	417°F	419°F	421°F	423°F	424°F	426°F
22	428°F	430°F	432°F	433°F	435°F	437°F	439°F	441°F	442°F	444°F
23	446°F	448°F	450°F	451°F	453°F	455°F	457°F	459°F	460°F	462°F
24	464°F	466°F	468°F	469°F	471°F	473°F	475°F	477°F	478°F	480°F
25	482°F	484°F	486°F	487°F	489°F	491°F	493°F	495°F	496°F	498°F
26	500°F	502°F	504°F	505°F	507°F	509°F	511°F	513°F	514°F	516°F
27	518°F	520°F	522°F	523°F	525°F	527°F	529°F	531°F	532°F	534°F
28	536°F	538°F	540°F	541°F	543°F	545°F	547°F	549°F	550°F	552°F
29	554°F	556°F	558°F	559°F	561°F	563°F	565°F	567°F	568°F	570°F
30	572°F	574°F	576°F	577°F	579°F	581°F	583°F	585°F	586°F	588°F

NOTES

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